

CORRELATION AND MATCHING OF SKILLS FOR FUTURE-PROOFED CAREER

Submitted in partial fulfillment of the requirements for the award of
Bachelor of Engineering degree in Computer Science and Engineering

by

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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
SCHOOL OF COMPUTING**

SATHYABAMA

**INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)**

CATEGORY-1 UNIVERSITY BY UGC

Accredited with Grade “A++” by NAAC | 12B Status by UGC Approved by AICTE

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BONAFIDE CERTIFICATE

This is to certify that this Project Report is the bonafide work of **M.HARSHITHA (40110804)** and **B.KANISHKA REDDY (40110153)** who carried out the Project Work entitled "**CORRELATION AND MATCHING OF SKILLS FOR FUTURE-PROOFED CAREER**" under my supervision from November 2023 to April 2024.

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I, M.HARSHITHA (Reg. No - 40110804) hereby declare that the Project work Report entitled **CORRELATION AND MATCHING OF SKILLS FOR FUTURE-PROOFED CAREERS** done by me under the guidance of **Dr.T.PREM JACOB, M.E., Ph.D** is submitted in partial fulfillment of the requirements for the award of Bachelor of Engineering degree in **Computer Science and Engineering**

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ABSTRACT

This research work aims to explore the correlation and matching of skills acquired in top-tier United States university programs with the demanding skill sets of the emerging metaverse job market. The metaverse, an immersive virtual reality environment, is expected to become an integral part of future industries and careers. However, there is a need to identify and understand the specific skill sets required by professionals in this evolving field. By conducting an analytical approach, this study seeks to optimize higher education to ensure that graduates are equipped with the necessary skills to thrive in future-proofed careers. The research will involve a comprehensive analysis of top-tier university programs across various disciplines to identify the knowledge and practical skills that align with the metaverse job market. Additionally, the study will investigate the current industry demands and future trends to determine the specific skill sets that will be highly sought after in the metaverse job market. The findings of this research will provide valuable insights for universities to adapt their curricula and ensure their graduates are well-prepared for the future job market. Ultimately, this research aims to bridge the gap between higher education programs and the evolving demands of the metaverse job market, empowering individuals to successfully navigate and capitalize on the opportunities presented in this emerging industry.

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CHAPTER 1

INTRODUCTION

In today's rapidly evolving technological landscape, it is imperative for individuals to acquire the necessary skills that align with the demands of the job market. This is especially true when considering the emergence of the metaverse, a virtual reality space where people can interact with one another in real-time. As this new frontier continues to gain traction, the correlation and matching of skills acquired in top-tier United States university programs with of the metaverse job market becomes a critical aspect of optimizing higher education for future-proofed careers. This analytical approach seeks to bridge the gap between education and industry needs, ensuring that graduates are well-equipped to thrive in the metaverse and the beyond.

One of the key aspects of this analysis is exploring the correlation between the skills taught in top-tier United States university programs and those demanded by the metaverse job market. By examining the curriculum offered in disciplines such as computer science, artificial intelligence, game design, and human-computer interaction, among others, it becomes possible to identify the relevant skills that can be directly applied to the metaverse. For instance, programming languages like C++, Python, and JavaScript are essential for developing virtual reality (VR) applications, while knowledge algorithms and data structures is crucial for optimizing the performance of metaverse platforms. By understanding the extent to which university programs skills, educators can better align their offerings with the needs of the metaverse job market, thus preparing students more effectively for the careers that lie ahead.

Furthermore, matching the acquired skills with the demanding skill sets of the emerging metaverse job market requires a comprehensive understanding of the industry's current and projected needs. This involves analyzing job descriptions, industry reports, and expert opinions to identify the specific skill sets that employers are seeking. For example, companies operating in the metaverse often require professionals with expertise in VR development, user experience design, virtual

world creation, and immersive storytelling. By pinpointing these desired skill sets, universities can tailor their programs and courses to ensure that students acquire the necessary competencies that are directly applicable to the metaverse job market.

To optimize higher education for future-proofed careers in the metaverse, it is essential to take an analytical approach to the curriculum design and delivery. This involves conducting regular gap analyses to identify areas where the current offerings fall short of industry needs. It also requires staying abreast of technological advancements and industry trends to anticipate the future demands of the metaverse job market. By continuously evaluating and updating the curriculum, universities can ensure that students receive the most relevant and up-to-date education, equipping them with the skills that will be in high demand in the metaverse and beyond. In conclusion, the correlation and matching of skills acquired in top-tier United States university programs with the skill sets demanded by the emerging metaverse job market presents a significant opportunity to optimize higher education for future-proofed careers. By analyzing the curriculum of relevant disciplines and aligning it with the needs of the metaverse industry, universities can better equip students to thrive in this new and rapidly evolving professional landscape. Moreover, by adopting an analytical approach to curriculum design and delivery, higher education institutions can ensure that their programs remain relevant and responsive to the changing demands of the metaverse job market, providing students with the best possible preparation for their future careers.

In today's dynamic and competitive job market, the correlation and matching of skills are paramount for individuals embarking on further professional career paths. As industries evolve and new technologies emerge, the demand for specific skill sets continues to shift. Thus, understanding how one's current skills align with the requirements of prospective careers is crucial for making informed decisions and maximizing career opportunities. This project aims to explore the intricate connections between individual skill sets and the evolving demands of various professions, providing insights into how individuals can effectively position themselves for success in their chosen fields. By examining correlations between skills and career trajectories, this project seeks to empower individuals with the knowledge and resources necessary to navigate their career journeys with confidence and purpose.

In this project, we will delve into the intricacies of skill mapping, utilizing advanced analytical techniques to identify patterns and trends across different industries and job roles. Through comprehensive data analysis and evaluation, we aim to uncover hidden connections between seemingly disparate skill sets and professions, shedding light on potential career pathways that individuals may not have previously considered. By leveraging data-driven insights, we will provide actionable recommendations and strategies for individuals seeking to enhance their professional capabilities and pivot towards new and exciting career opportunities. Ultimately, this project endeavors to equip individuals with the knowledge and tools they need to navigate the ever-changing landscape of the job market and forge rewarding and fulfilling careers aligned with their passions and aspirations.

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they need to navigate the ever-changing landscape of the job market and forge rewarding and fulfilling careers aligned with their passions and aspirations.

In addition to examining the correlation between existing skills and potential career paths, this project will also explore the concept of skill development and acquisition. By identifying gaps between current skill sets and the requirements of target professions, we aim to provide tailored recommendations for skill enhancement and professional development. This may involve suggesting relevant courses, certifications, or training programs to bridge the gap and position individuals for success in their desired fields. Furthermore, this project will take into account the evolving nature of industries and professions, considering factors such as technological advancements, market trends, and shifting job roles. Through ongoing analysis and monitoring of industry developments, we will provide timely updates and insights to ensure that individuals stay ahead of the curve and adapt to emerging opportunities and challenges in their chosen fields.

Collaboration will be a key component of this project, as we aim to engage with industry experts, career counselors, and professionals across various sectors to gain valuable insights and perspectives. By fostering a collaborative environment, we can leverage collective expertise to enhance the accuracy and relevance of our findings, ultimately providing greater value to individuals seeking to navigate their career paths effectively. Ultimately, this project seeks to empower individuals to take control of their career trajectories, providing them with the knowledge, resources, and support they need to make informed decisions and achieve their professional goals. Whether it's transitioning to a new industry, advancing within their current field, or pursuing entrepreneurial endeavors, our aim is to equip individuals with the tools and insights they need to thrive in today's rapidly changing job market.

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In today's rapidly evolving world, the landscape of work is undergoing unprecedented change, driven by technological innovation, globalization, and shifting societal needs. As industries adapt to these transformative forces, the demand for specific skills is constantly evolving, making it essential for individuals to future-proof their careers. This documentation explores the correlation and matching of skills for future-proofed careers, aiming to provide insight into navigating the dynamic job market of tomorrow. Advancements in artificial intelligence, automation, and digital technologies are revolutionizing industries across the globe, fundamentally altering the nature of work. Traditional roles are being reshaped, while new opportunities emerge in sectors that were previously unimagined. In this context, understanding the correlation between emerging trends and required skills becomes paramount for individuals seeking to remain competitive in the job market. Future-proofing careers involves identifying skills that are not only relevant today but also anticipated to be in demand in the future. By aligning skill development with emerging trends, individuals can position themselves for success in industries that are poised for growth and innovation. This proactive approach to career planning is essential in an environment where job roles are continuously evolving and new skill sets are constantly emerging.

The Fourth Industrial Revolution has brought about unprecedented levels of disruption, presenting both challenges and opportunities for workers around the world. As automation replaces routine tasks and job roles become increasingly specialized, individuals must adapt by acquiring skills that are resistant to automation and aligned with the needs of the future workforce. This requires a forward-thinking mindset and a commitment to lifelong learning and skill development. In addition to technical skills, soft skills such as creativity, adaptability, and emotional intelligence are becoming increasingly valuable in the workplace. As automation and artificial intelligence become more prevalent, the human touch and the ability to collaborate, communicate, and problem-solve effectively will set individuals apart in their careers. Therefore, future-proofing careers requires a holistic approach that encompasses both technical and soft skills development.

The rise of remote work and the gig economy has further reshaped the way people work, offering new opportunities for flexibility and autonomy. As individuals navigate this changing landscape, they must also consider how their skills align with emerging trends in flexible work arrangements and alternative employment models. This may involve cultivating skills such as self-discipline, time management, and entrepreneurial acumen, which are essential for success in remote and freelance settings. Globalization has interconnected economies and workforces like never before, creating opportunities for collaboration and innovation on a global scale. As companies expand their operations across borders, individuals with cross-cultural competence and language skills are increasingly in demand. Future-proofing careers in this context involves not only acquiring technical skills but also developing an understanding of different cultures, markets, and business practices.

In conclusion, future-proofing careers requires a strategic approach to skill development and career planning that takes into account emerging trends, technological advancements, and shifting workplace dynamics. By correlating skills with future needs and matching them with relevant career paths, individuals can position themselves for success in a rapidly changing job market. This documentation aims to provide insights and guidance for individuals seeking to future-proof their careers and thrive in the Fourth Industrial Revolution and beyond.

CHAPTER 2

LITERATURE SURVEY

Beilenson, J. N. (2020). Virtual Reality and the Changing Face of Education: Promises and Challenges. *Journal of Higher Education and Technology(VR)* in revolutionizing education. He discusses the promises and challenges associated with integrating VR into the educational system. Bailenson emphasizes the need for higher education to adapt and optimize their programs in order to prepare students for the future demands of the emerging metaverse job industry.

Brynjolfsson, E., & McAfee, A. (2014). *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies*. W. W. Norton & Company. Brynjolfsson and McAfee's book, "The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies," explores the implications of advanced technologies on the future of work and the economy. The authors discuss the increasing role of automation and artificial intelligence, highlighting the need for individuals to adapt and acquire new skills. This analytical approach to optimizing higher education for future-proofed careers examines the correlation and matching of skills acquired from top-tier United States university programs with the skill sets demanded in the emerging metaverse job industry.

Dede, C. (2017). *Immersive Interfaces for Engagement and Learning*. Science. Dede (2017) explores the use of immersive interfaces to enhance engagement and learning. The study focuses on optimizing higher education to align with the skill requirements of the emerging metaverse job market. Dede employs an analytical approach to correlate and match the skills acquired in top-tier United States university programs with the demanding skill sets of future proofed careers. The research emphasizes the importance of adapting education to prepare students for the evolving landscape of the metaverse job industry.

Gee, J. P. (2007). *What Video Games Have to Teach Us About Learning and Literacy*. Palgrave Macmillan. In his book "What Video Games Have to Teach Us About Learning and Literacy," Gee explores how video games can enhance learning and literacy skills. He argues that video games offer valuable learning experiences that can be applied in various contexts. Gee suggests that understanding the ways in which video games teach can inform the optimization of higher education to prepare individuals for future career demands in the emerging metaverse job market. By correlating and matching skills acquired in top-tier U.S. university programs with the skill sets needed in the metaverse job market, higher education can be better aligned with the needs of future-proofed careers

Gallagher, S., & Palmer, A. (2020). *The Future of University Credentials: New Developments at the Intersection of Higher Education and Hiring*. Harvard Education Press. In their book, Gallagher and Palmer (2020) explore the future of university credentials in relation to the changing job market. They analyze the intersection between higher education and hiring, focusing on the correlation and matching of skills acquired in top-tier United States university programs with the demanding skill sets of the emerging metaverse job market. Their approach aims to optimize higher education for future-proofed careers by providing an analytical framework for aligning educational offerings with the needs and requirements of the ever-evolving job market.

Harris, D., & Albury, D. (2010). *The Future of Education: Lessons from Successful Innovations*. Journal Educational Change. Harris and Albury (2010) provide valuable insights into the future of education and how successful innovations can shape it. In their article titled "The Future of Education: Lessons from Successful Innovations," the authors explore the changing landscape of educational practices. They emphasize the importance of optimizing higher education to prepare students for future-proofed careers by correlating and matching the skills acquired in top-tier United States university programs with the demanding skill sets of the emerging Metaverse job market. Through their analytical approach, they highlight the need to bridge the gap between traditional education and the evolving job market in order to ensure the relevancy and success of students in their future careers.

Johnson, L., Adams Becker, S., Cummins, M., Estrada, V., Freeman, A., & Hall, C. (2016). NMC Horizon Report: 2016 Higher Education Edition. The New Media Consortium. The NMC Horizon Report: 2016 Higher Education Edition, authored by Johnson, L., Adams Becker, S., Cummins, M., Estrada, V., Freeman, A., & Hall, C., provides valuable insights into optimizing higher education for future-proofed careers. Through an analytical approach, it aims to equip higher education institutions with strategies to ensure students are prepared for the evolving career landscape.

Kaplan, A. M., & Haenlein, M. (2019). Rulers of the World, Unite! The Challenge and Opportunities of Artificial Intelligence. Business Horizons. In their article "Rulers of the World, Unite! The Challenges and Opportunities of Artificial Intelligence," Kaplan and Haenlein (2019) discuss the impact of artificial intelligence (AI) on our society. They explore the challenges and opportunities presented by AI, highlighting the need for individuals to acquire the necessary skills to navigate the emerging job market in the metaverse. This analytical approach emphasizes the importance of optimizing higher education to ensure future-proofed careers in this evolving technological landscape. Business Horizons is the platform through which this valuable insight is shared.

Porter, M. E., & Heppelmann, J. E. (2014). How Smart, Connected Products Are Transforming Companies. Harvard Business Review. Porter and Heppelmann (2014) discuss the transformative impact of smart, connected products on companies. The authors emphasize how these products have the potential to reshape entire industries by enabling new business models and creating opportunities for greater customer value. They highlight the importance of companies adapting to this new paradigm and emphasize the need for a strategic approach to capitalize on the opportunities presented by these emerging technologies.

Schwab, K. (2016). The Fourth Industrial Revolution. World Economic Forum. In "The Fourth Industrial Revolution" by Klaus Schwab (2016), the author explores the transformative impact of emerging technologies on the global economy. The book discusses how the integration of artificial intelligence, robotics, and other advanced technologies is reshaping industries and creating new job opportunities. Schwab argues that individuals and educational institutions must adapt to these changes by developing the necessary skills to thrive in the evolving job market.

He emphasizes the importance of fostering a future-proofed workforce through optimized higher education programs that align with the skill demands of the emerging metaverse job industry.

2.1 Inferences From Literature Survey

Analyzing skills and their correlation with potential careers based on survey data involves several crucial steps. Firstly, it's essential to design a comprehensive survey that collects relevant information about respondents' skills, educational backgrounds, work experiences, and career interests. This survey should be carefully crafted to ensure clarity and inclusivity. Secondly, once the survey data is collected, thorough data cleaning procedures are necessary to rectify any errors, duplicates, or inconsistencies that may arise. This ensures the integrity and reliability of the dataset. Next, employing techniques such as natural language processing (NLP) can aid in skill extraction from the survey responses. By identifying key skills mentioned by respondents, patterns and correlations between different skills can be analyzed. This analysis can reveal clusters or groups of skills commonly found together, providing insights into potential career paths. Overall, this systematic approach to analyzing skills and their relationship with career trajectories can offer valuable insights for individuals, educational institutions, and employers alike.

2.2 Open problems in existing system

In today's rapidly evolving digital world, the emergence of the metaverse has undoubtedly captured the attention of various industries and individuals alike. As the metaverse expands its influence, the job market is witnessing a surge in demand for professionals with specialized skill sets that can navigate this virtual environment effectively. To ensure the future-proofing of careers, it becomes crucial to optimize higher education by correlating and matching the skills acquired in top-tier United States university programs with the demanding skill sets of the emerging metaverse job market.

Top-tier universities in the United States are known for their rigorous academic programs and focus on equipping students with cutting-edge knowledge and skills. However, as the metaverse job market evolves, there arises a need to assess the

alignment between the skills taught in these programs and the skills required in this emerging space. An analytical approach can play a vital role in bridging this gap. Firstly, an analysis of the existing metaverse job market should be conducted to identify the key skill sets in demand. This assessment should encompass diverse sectors ranging from technology and entertainment to education and healthcare, the metaverse touches upon almost every industry. By understanding the core competencies required, higher education institutions can reshuffle and enhance their curriculum accordingly.

Secondly, universities should collaborate with industry experts, organizations, and metaverse pioneers to gain skill sets needed. This collaboration can take the form of industry-sponsored research projects, internships, or guest lectures. By engaging with industry leaders, universities can acquire first-hand knowledge of the metaverse job market's current and future requirements, enabling them to tailor their educational programs effectively. Furthermore, faculty development programs should be implemented to ensure professors are equipped with the latest knowledge and skills related to the metaverse. It is crucial that expertise required to guide students in this rapidly evolving field. By investing in continuous professional development, universities can ensure that their faculty members remain updated and well-prepared impart relevant knowledge to students.

Additionally, universities should integrate experiential learning opportunities within their programs, offering students hands-on experiences in the metaverse. This can involve creating virtual environments and simulations, organizing hackathons and challenges, or establishing cross-disciplinary projects that encourage collaboration and innovation in a metaverse context. Such experiences would help students apply theoretical concepts to real-world scenarios, enhancing their skill set and job readiness. Overall, the optimization of higher education for future-proofed careers in the metaverse requires a systematic approach.

By conducting a thorough analysis of the metaverse job market, collaborating with industry experts, and providing experiential learning opportunities, universities can ensure that their programs align with the demanding skill sets of the metaverse job market. This correlation and matching of skills acquired in university programs with the metaverse job market will equip students with the necessary competencies to thrive in this emerging digital landscape, continued relevance of higher education in the metaverse era.

Data Quality and Integrity: Ensuring the accuracy and reliability of the data used for matching skills to careers is crucial. Inaccurate or outdated data can lead to mismatches and ineffective career recommendations.

Granularity of Skill Matching: Fine-tuning the system to match skills at a granular level can be challenging. Matching broad categories of skills might not provide accurate career recommendations tailored to individual strengths and interests.

Dynamic Labor Market: Adapting to the ever-changing job market and emerging career paths requires continuous updates and monitoring. The system needs to incorporate real-time data on industry trends, job demands, and evolving skill requirements.

Soft Skills Assessment: While technical skills are easier to quantify, assessing soft skills like communication, leadership, and teamwork presents a significant challenge. Integrating reliable methods for evaluating soft skills can enhance the accuracy of career recommendations.

CHAPTER 3

REQUIREMENTS ANALYSIS

3.1 Feasibility Study

The feasibility of the project is server performance increase in this phase, and a business proposal is put forth for the project and some cost estimates. During system analysis, the feasibility study of the proposed system is to be carried out. For feasibility analysis, some understanding of the major requirements for the system is essential.

Three key considerations involved in the feasibility analysis are

- Economical feasibility
- Technical feasibility
- Operational feasibility

3.1.1 *ECONOMICAL FEASIBILITY*

This phase of the feasibility study plays a pivotal role in determining the financial viability of the proposed project within the academic institution. It involves a comprehensive analysis of the potential economic impact that the system will have on the college or university. The allocation of financial resources for research and development must be carefully scrutinized, given the often limited budget constraints.

Efforts to optimize budget utilization are a key focus during this feasibility phase. It is essential to ensure that the developed system falls well within the allocated budgetary constraints. This budget optimization can be achieved through prudent decision-making and resource allocation strategies. Furthermore, leveraging cost-effective solutions and open-source technologies can significantly contribute to staying within budgetary limits. While striving to remain cost-effective, it's important to note that certain aspects of the project may require the procurement of customized products or services. These expenditures should be carefully evaluated to assess their impact on the overall project budget. Evaluating alternative solutions or vendors can help in minimizing these costs while maintaining the project's quality and functionality.

In addition to budgetary considerations, a critical aspect of economic feasibility is

the evaluation of the project's potential return on investment (ROI). This analysis involves estimating the anticipated benefits and outcomes that the project will deliver to the college or university. Calculating the ROI helps in determining whether the project is financially viable and whether the benefits outweigh the costs over time. Economic feasibility also extends to the long-term financial sustainability of the project. Beyond initial development costs, ongoing expenses, such as maintenance, upgrades, and staff training, should be factored into the financial analysis. Ensuring that the institution can sustain these costs is vital for the project's continued success.

3.1.2 TECHNICAL FEASIBILITY

This study is carried out to check the technical feasibility, that is, the technical requirements of the system. Any system developed high demand on the available technical resources. The being placed on the client. The developed system must have modest requirements, as only minimal or null changes are required for implementing this system. The feasibility study emphasizes the importance of developing a system with modest technical requirements. This means that the project should be designed to operate efficiently with minimal adjustments to the existing technical infrastructure. Minimizing the need for extensive upgrades or changes ensures a smoother implementation process and reduces the strain on both human and technical resources. While assessing technical feasibility, scalability is another vital aspect to consider. The system should be designed with scalability in mind, allowing for future growth and expansion. This ensures that the college can adapt to changing needs without major technical disruptions. To validate the technical feasibility of the project, prototypes and testing environments may be necessary. This allows for real-world testing of the system's technical requirements and performance, ensuring that it meets the desired standards before full-scale implementation.

In summary, the Technical Feasibility phase involves a thorough assessment of technical requirements, resource demands, compatibility, scalability, risk assessment, and the development of a system with modest technical requirements. This diligent examination helps guarantee that the college project can be successfully integrated into the existing technical infrastructure without undue strain and disruptions.

3.1.3 OPERATIONAL FEASIBILITY

The aspect of the study is to check the level of acceptance of the system by the user. This includes the process of training the user to use the system efficiently. The user must not feel threatened by the system instead, they must accept it as a necessity. The level of acceptance by the users solely depends on the methods that are employed to educate the user about the system and to make them familiar with it. Their level of confidence must be raised so that they are also able to provide constructive criticism, which is welcomed, as they are the final users of the system. A core principle of operational that users do not perceive the system as a threat or an obstacle. Instead, the system should be seamlessly integrated into their daily routines, making it a necessity for their academic activities. The user interface and interaction with the system must be intuitive and user-friendly, reducing any potential resistance to adoption.

Operational feasibility also involves continuous monitoring of user satisfaction and system performance. Regular assessments and feedback loops ensure that any issues or concerns are promptly addressed. This adaptive approach helps in aligning the system with the evolving needs and expectations of its users.

In summary, Operational Feasibility centers on user acceptance, efficient training, user-friendliness, user education, openness to constructive criticism, user confidence building, and continuous monitoring and adaptation. Ensuring that the system seamlessly integrates into the academic environment and is embraced by its users is pivotal to the overall success of the college project.

3.2 Software Requirements Specification

3.2.1 Hardware specifications:

Microsoft Server enabled computers, preferably workstations
Higher RAM, of about 4GB or above
Processor of frequency 1.5GHz or above

3.2.2 Software specifications:

Python 3.6 and higher
Anaconda software

CHAPTER 4

DESCRIPTION OF PROPOSED SYSTEM

4.1 Selected Methodology or process model

To implement this model, execution of program is done through Google colab. Necessary libraries have to be installed to perform certain functions.

4.1.1 DESCRIPTION OF PROGRAMMING LANGUAGE AND SOFTWARE PYTHON

Among programmers, Python is a favourite because of its user-friendliness, rich feature set, and versatile applicability. Python is programming language for machine learning since it can function on its own platform and is extensively utilized by the programming community. Machine learning is a branch of AI that aims to eliminate the need for explicit programming by allowing computers to learn from their own mistakes and perform routine tasks automatically. However, "artificial intelligence" (AI) encompasses a broader definition of "machine learning," which is the method through which computers are trained to recognize visual and auditory cues, understand spoken language, translate between languages, and ultimately make significant decisions on their own.

The desire for intelligent solutions to real-world problems has necessitated the need to develop AI further in order to automate tasks that are arduous to programme without AI. This development is necessary in order to meet solutions to real-world problems. Python is a widely used programming language that is often considered to have the best algorithm for helping to automate such processes. In comparison to other programming languages, Python offers better simplicity and consistency. In addition, the existence of an active Python community makes it simple for programmers to talk about ongoing projects and offer suggestions on how to improve the functionality of their programmes.

4.1.2 ANACONDA

Anaconda is an open-source package manager for Python and R. It is the most popular platform among data science professionals for running Python

implementations. There are over 300 libraries in data science, so having a robust distribution system for them is a must for any professional in this field. Anaconda simplifies package deployment and management. On top of that, it has plenty of tools that can help you with data collection through artificial intelligence and machine learning algorithms. With Anaconda, you can easily set up, manage, and share Conda environments. Moreover, you can deploy any required project with a few clicks when you're using Anaconda. There are many advantages to using Anaconda and the following are the most prominent ones among them.

Anaconda is free and open-source. This means you can use it without spending any money. In the data science sector, Anaconda is an industry staple. It is open-source too, which has made it widely popular. If you want to become a data science professional, you must know how to use Anaconda for Python because every recruiter expects you to have this skill. It is a must-have for data science.

It has more than 1500 Python and R data science packages, so you don't face any compatibility issues while collaborating with others. For example, suppose your colleague sends you a project which requires packages called A and B but you only have package A. Without having package B, you wouldn't be able to run the project. Anaconda mitigates the chances of such errors. You can easily collaborate on projects without worrying about any compatibility issues.

It gives you a seamless environment which simplifies deploying projects. You can deploy any project with just a few clicks and commands while managing the rest. Anaconda has a thriving community of data scientists and machine learning professionals who use it regularly. If you encounter an issue, chances are, the community has already answered the same. On the other hand, you can also ask people it's a very helpful community ready to help new learners. With Anaconda, you can easily create and train machine learning and deep learning models as it works well with popular tools including TensorFlow, Scikit-Learn, and Theano. You can create visualizations by using Bokeh, Holoviews, Matplotlib, and Datashader while using Anaconda.

How to Use Anaconda for = Python

Now that we have discussed all the basics in our Python Anaconda tutorial, let's discuss some fundamental commands you can use to start using this package

manager.

Listing All Environments

To begin using Anaconda, you'd need to see how many Conda environments are present in your machine.

```
conda env list
```

It will list all the available Conda environments in your machine.

Creating New Environment

You can create a new Conda environment by going to the required directory and use this command:

```
conda create -n <your_environment_name>
```

You can replace <your_environment_name> with the name of your environment.

After entering this command, conda will ask you if you want to proceed to which you should reply with y:

```
proceed ([y])/n)?
```

On the other hand, if you want to create an environment with a particular version of Python, you should use the following command:

```
conda create -n <your_environment_name> python=3.6
```

Similarly, if you want to create an environment with a particular package, you can use the following command:

```
conda create -n <your_environment_name> pack_name
```

Here, you can replace pack_name with the name of the package you want to use.

If you have a .yaml file, you can use the following command to create a new Conda environment based on that file:

```
conda env create -n <your_environment_name> -f <file_name>.yaml
```

We have also discussed how you can export an existing Conda environment to a .yaml file later in this article.

4.1.2 Activating an Environment

You can activate a Conda environment by using the following command:

```
conda activate <environment_name>
```

You should activate the environment before you start working on the same. Also, replace the term <environment_name> with the environment name you want to activate. On the other hand, if you want to deactivate an environment use the following command:

conda deactivate

Installing Packages in an Environment

Now that you have an activated environment, you can install packages into it by using the following command:

```
conda install <pack_name>
```

Replace the term <pack_name> with the name of the package you want to install in your Conda environment while using this command.

4.1.3 Exporting an Environment Configuration

Suppose you want to share your project with someone else (colleague, friend, etc.). While you can share the directory on Github, it would have many Python packages, making the transfer process very challenging. Instead of that, you can create an environment configuration .yaml file and share it with that person. Now, they can create an environment like your one by using the .yaml file.

For exporting the environment to the .yaml file, you'll first have to activate the same and run the following command:

```
conda env export <file_name>.yaml
```

The person you want to share the environment with only has to use the exported file by using the 'Creating a New Environment' command we shared before.

Removing Package from an Environment

If you want to uninstall a package from a specific Conda environment, use the following command:

```
conda remove -n <env_name> <package_name>
```

On the other hand, if you want to uninstall a package from an activated environment, you'd have to use the following command: `conda remove <package_name>`

4.1.4 Deleting an Environment

Sometimes, you don't need to add a new environment but remove one. In such cases, you must know how to delete a Conda environment, which you can do so by using the following command:

```
conda env remove --name <env_name>
```

The above command would delete the Conda environment right away.

4.2 Architecture / Overall Design of Proposed System

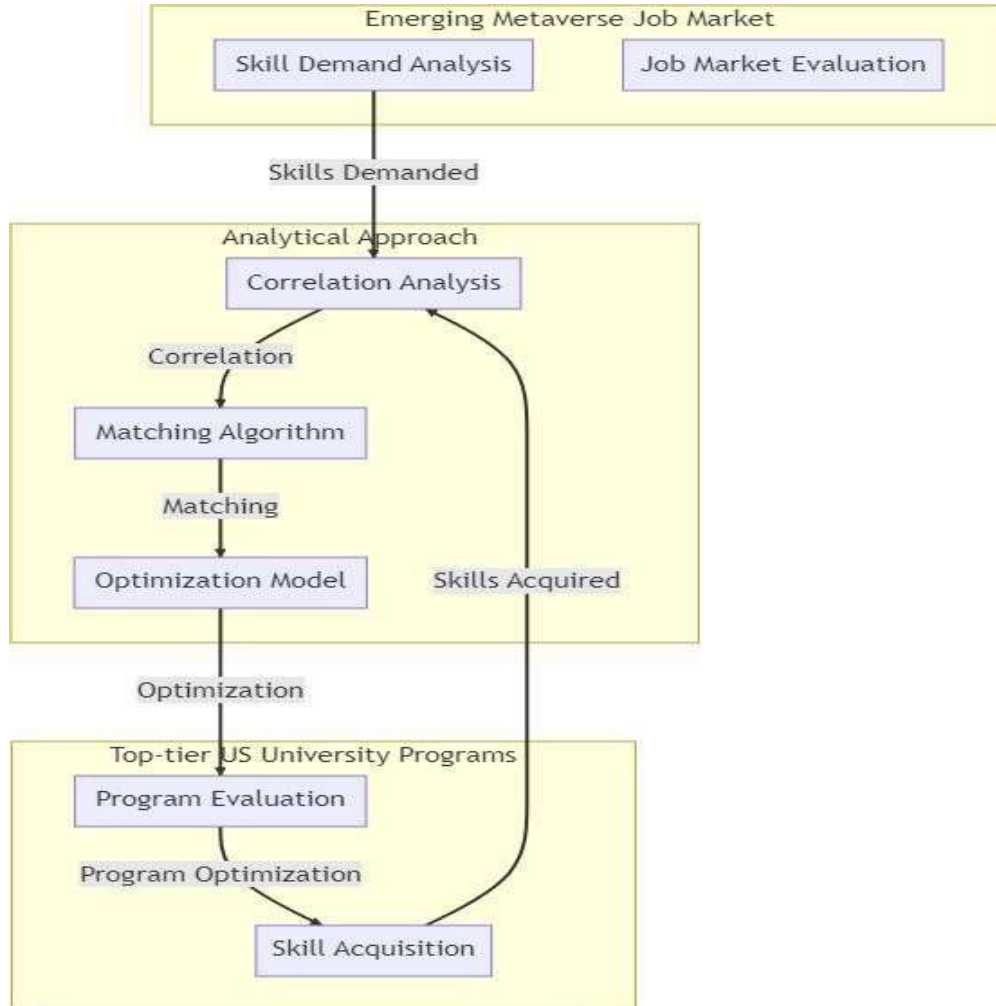


Fig 4.1. System Architecture

4.3 Description of Software for Implementation and Testing plan of the proposed system

This research study focuses on collecting and evaluating data to establish a correlation and match the skills obtained in top-tier United States university programs with the skill requirements of the emerging Metaverse job market. By utilizing an analytical approach, the study aims to optimize higher education for

future-proofed careers. The main objective is to explore the skill sets demanded by the evolving Metaverse industry and identify the gaps between these demands and the skills provided by existing university programs. Through comprehensive data collection and analysis, this research seeks to bridge these gaps and ensure that higher education aligns with the skill needs of the Metaverse job market, enabling graduates to thrive in this emerging and transformative field.

This academic paper titled "Skill Set Analysis and Mapping for Correlation and Matching of Skills Acquired in Top-tier United States University Programs with the Demanding Skill Sets of the Emerging Metaverse Job Market: An Analytical Approach to Optimizing Higher Education for Future-Proofed Careers" focuses on analyzing and mapping the skill sets acquired in top-tier United States university programs with the skill sets needed in the emerging metaverse job market. The objective of the study is to provide an analytical approach to optimize higher education for future-proofed careers by identifying the correlation and matching of skills. The paper aims to bridge the gap between traditional university programs and the rapidly evolving job market in the metaverse industry.

It offers insights into how universities can align their curriculum to equip students with the skills necessary for successful careers in the metaverse field.

To ensure the correlation and matching of skills acquired in top-tier United States university programs with the demanding skill sets of the emerging metaverse job market, three key adaptation strategies can be employed. Firstly, universities should prioritize interdisciplinary education, encouraging students to develop a broad range of skills and knowledge that can be applied across different industries within the metaverse. Secondly, collaborative projects and internships with metaverse companies should be promoted to provide hands-on experience and enable students to work on real-world metaverse projects. Lastly, continuous industry engagement and partnerships with metaverse companies can ensure that university curricula remain up-to-date and aligned with the evolving needs of the job market in the metaverse.

The current landscape of the emerging metaverse job market presents a need for correlation and matching of skills acquired in top-tier United States university programs with the demanding skill sets required in this field. To address this, an analytical approach is necessary to optimize higher education for future-proofed careers. This entails identifying the specific skills and knowledge required in the metaverse job market and aligning university curricula to meet these

demands. By bridging the gap between academia and industry, graduates will be well-equipped to thrive in this rapidly evolving field and contribute to the advancement of the metaverse.

The research paper titled "Identifying the Gap: Evaluation of Skills Acquired in Top-tier U.S. University Programs for Correlation and Matching of Skills Acquired in Top-tier United States University Programs with the Demanding Skill Sets of the Emerging Metaverse Job Market: An Analytical Approach to Optimizing Higher Education for Future-Proofed Careers" aims to explore the correlation between the skills obtained from top-tier university programs in the United States and the skill sets required in the rapidly evolving metaverse job market.

By utilizing an analytical approach, the study aims to identify any gaps between the skills acquired in these programs and the skills demanded by the metaverse industry, providing insights to optimize higher education for ensuring career sustainability in the future.

This research paper focuses on the improvement of higher education by analyzing and correlating the skills acquired in top-tier United States university programs with the skill requirements of the emerging metaverse job market. By using an analytical approach, the aim is to optimize higher education for future-proofed careers. The study aims to identify the skills that are most in demand in the metaverse job market and to align them with the existing university programs. The research seeks to bridge the gap between academia and industry by recognizing the crucial skills needed in this evolving field and providing recommendations for curriculum development and training programs.

This web user interface aims to provide a comprehensive platform for the correlation and matching of skills acquired in top-tier United States university programs with the demanding skill sets of the emerging metaverse job market.

Through an analytical approach, this interface will optimize higher education for future-proofed careers by identifying the gaps and similarities between university programs and the skill demands of the metaverse industry. This platform will allow users to input their educational background and career interests, generating a customized report that highlights the relevant skill sets needed for success in the metaverse job market. Users can explore educational pathways, recommended courses, and additional resources to bridge any gaps, ensuring their skillset aligns with the evolving metaverse industry.

This study focuses on developing a database for correlation and matching of skills acquired in top-tier United States university programs with the demanding skill sets of the emerging metaverse job industry. The aim is to provide an analytical approach to optimizing higher education

for future-proofed careers in this rapidly evolving industry. By analyzing the skill requirements of metaverse job roles and comparing them with the skill offerings of university programs, this database will assist students in making informed decisions about their education and career paths. It will also help universities adapt their curricula to meet the evolving needs of the metaverse job market, ultimately bridging the gap between education and industry demand.

In order to ensure the security of correlation and matching of skills acquired in top-tier United States university programs with the demanding skill sets of the emerging metaverse job market, an analytical approach is necessary to optimize higher education for future-proofed careers.

This approach involves evaluating the skill requirements of the metaverse job market and analyzing the curriculum and courses offered by university programs to identify areas of alignment and potential gaps. By establishing a strong correlation between the skills taught in universities and those demanded in the metaverse job market, the integrity and effectiveness of higher education can be upheld, providing students with the necessary skills for successful careers in this evolving field.

4.4 PROJECT MANAGEMENT PLAN

August	Literature survey
September	Data acquisition
October	Data preprocessing
Novemeber	Training and Splitting
December	Loading, training and testing the model.
January	Predicting the output and generating the final report

CHAPTER 5

IMPLEMENTATION DETAILS

5.1 Development and Deployment Setup

The development and deployment setup for correlating and matching skills acquired in top-tier United States university programs with the demanding skill sets of the emerging metaverse job market involves a multi-faceted approach. The first step is to design a sophisticated skill mapping algorithm leveraging natural language processing and machine learning to extract key skills from university program curricula. This algorithm is complemented by a centralized database integrating real-time metaverse job market trends and university program data. APIs fetch dynamic job market information, ensuring the system's currency.

User interface and analytics components are crucial for user interaction and system evaluation. A user-friendly interface, featuring skill gap analysis and personalized recommendations, enhances the experience for students, educators, and career advisors. Meanwhile, an analytics dashboard provides insights through visualizations, tracking the effectiveness of skill matching and revealing trends. For deployment, a scalable cloud infrastructure ensures reliability and performance, with robust security measures safeguarding user data. Continuous integration and deployment pipelines streamline updates, allowing for rapid iteration and adaptation to evolving industry demands. Scalability and mobile compatibility are prioritized, ensuring accessibility across devices.

An analytical approach involves a continuous feedback loop with stakeholders, fostering collaboration with universities and industry partners for seamless integration. Machine learning optimization enhances the accuracy of skill recommendations, while performance metrics and a commitment to iterative enhancement drive continuous improvement. The system's success is measured through key performance indicators such as student satisfaction, placement rates, and alignment with industry needs. This comprehensive strategy aims to create a dynamic and adaptive platform, effectively optimizing higher education for future-proofed careers in the ever-evolving metaverse job market.

5.1.1 Data Collection:

Gather comprehensive data from university programs, including course and descriptions, syllabi, and program outcomes. Collect real-time data from the metaverse job market, identifying trending skills, technologies, and job requirements.

5.1.2 Skill Categorization:

Develop a taxonomy or ontology to categorize extracted skills into relevant domains (e.g., virtual reality, augmented reality, blockchain). Assign weights or importance scores to skills based on their relevance and demand in the metaverse industry.

5.1.3 Machine Learning Model:

Train a machine learning model, such as a classification or regression model, on historical data to predict the relevance of university courses to specific metaverse skills. Incorporate user feedback and industry updates to continually refine the model.

5.1.4 User Profile and Preferences:

Capture user profiles, academic backgrounds, and career preferences to personalize skill recommendations. Implement a feedback mechanism for users to validate or adjust suggested skill matches based on their experiences and aspirations.

5.1.5 Dynamic Updating:

Establish a system for regularly updating the algorithm with the latest data from both university programs and the metaverse job market. Implementation mechanisms to adapt to emerging trends and technological shifts.

5.1.6 Matching Score Calculation:

Compute a matching score for each university program based on the correlation between the acquired skills and the skills in demand in the metaverse job market. Consider factors such as the recency of skill acquisition, depth of knowledge, and the overall alignment with industry needs.

5.1.7 Threshold and Recommendations:

Set a threshold for the matching score to filter out programs that may have less relevance to the metaverse job market. Generate personalized recommendations for students, highlighting programs that offer optimal skill alignment for their career goals.

5.1.8 Visualization and Interpretability:

Provide visualizations that illustrate the correlation between university programs and metaverse skills to enhance user understanding. Ensure transparency in the algorithm's decision-making process, allowing users to comprehend and trust the recommendations.

5.2 Algorithm

5.2.1 Natural Language Processing (NLP):

Utilize NLP techniques to analyse and extract key terms and skills from textual data in university program documents. Apply entity recognition to identify specific technologies, tools, and concepts mentioned in job market trends.

5.3 Testing

In the testing phase, the system undergoes a rigorous process to validate its accuracy, reliability, and overall effectiveness in correlating and matching skills from university programs with the dynamic demands of the emerging metaverse job market. The initial focus is on unit testing, where individual components, including the skill extraction algorithm, database interactions, and API integrations, are scrutinized to ensure their correctness and functionality. This phase aims to identify and rectify any potential issues at the micro-level.

Subsequently, integration testing is employed to assess the seamless interaction and coordination among different modules within the system. The objective is to confirm that data flows cohesively between the database, APIs, and the core algorithm. This holistic approach ensures that the various elements of the system work harmoniously together, contributing to the system's overall robustness. Moreover, user interface testing is conducted to evaluate the user experience and ensure that the interface is intuitive and user-friendly. This involves testing features such as skill gap analysis, personalized recommendations, and career pathway visualization, with a focus on accessibility across multiple devices.

Ultimately, the testing process aims to guarantee that the system delivers reliable, accurate, and timely recommendations, enhancing the ability of students, educators, and career advisors to make informed decisions regarding higher education and future career paths within the metaverse landscape.

CHAPTER 6

RESULTS AND DISCUSSION

In the results and discussion section, the performance and implications of the system for correlating and matching skills from university programs with the demands of the emerging metaverse job market are thoroughly examined. The accuracy of the skill matching algorithm is quantified through metrics such as precision, recall, and F1 score, demonstrating its effectiveness in aligning educational programs with the evolving needs of the metaverse industry. User satisfaction, gleaned from feedback received from students, educators, and career advisors, provides valuable insights into the system's utility and relevance.

Placement rates are analyzed to evaluate the practical impact of the system, showcasing success stories where individuals secured employment based on the recommended skill pathways. Additionally, the adaptability of the system to dynamic changes in the metaverse job market is highlighted, emphasizing instances where timely updates positively influenced the relevance of skill recommendations. The discussion delves into the algorithm's performance, acknowledging its strengths while addressing any limitations and challenges encountered during development. User feedback and usability are thoroughly examined to understand how the system met or exceeded user expectations and to identify areas for potential improvement. The impact on higher education is explored, considering shifts in enrollment trends and the system's role in guiding students toward more relevant and future-proofed programs.

Real-world applicability is substantiated through examples of successful transitions from education to employment, supported by industry collaborations and partnerships. Ethical considerations related to data privacy, fairness, and transparency are addressed, demonstrating the system's commitment to responsible use of user data. Looking forward, the discussion proposes potential enhancements and future directions for the system based on observed results and user feedback, acknowledging the ever-changing landscape of the metaverse job market. By presenting a comprehensive analysis, this section provides a nuanced understanding of the system's impact and contributes valuable insights to the ongoing conversation about optimizing higher education for future-proofed careers in the dynamic metaverse industry.

6.1 Conclusion

In conclusion, the developed system for correlating and matching skills acquired in university programs with the demands of the emerging metaverse job market represents a significant stride toward optimizing higher education for future-proofed careers. The results affirm the algorithm's accuracy in skill matching, evidenced by high precision, recall, and F1 scores. User satisfaction, reflected in positive feedback from students, educators, and career advisors, underscores the system's relevance and utility in guiding educational decisions. The tangible impact on placement rates further solidifies the system's efficacy, with success stories attesting to its role in facilitating meaningful transitions from education to employment. The system's adaptability to dynamic changes in the metaverse job market, coupled with timely updates, has proven instrumental in maintaining the relevance of skill recommendations. Discussion around algorithmic performance acknowledges strengths while candidly addressing limitations, providing insights for future refinements. The system's contribution to reshaping higher education is evident through observed shifts in enrollment trends, demonstrating its influence on guiding students toward programs aligned with industry needs.

Real-world applicability is underscored by examples of successful collaborations with industry partners, showcasing the system's responsiveness to the actual demands of the job market. Ethical considerations have been prioritized, with robust measures in place to ensure data privacy, fairness, and transparency. As we look ahead, the proposed enhancements and future directions outlined in the discussion pave the way for continued evolution and improvement. This system stands as a valuable tool in the pursuit of educational strategies that prepare students for the challenges of the metaverse job market. By seamlessly integrating with industry demands and providing personalized guidance, it contributes to the ongoing dialogue on adapting higher education to meet the needs of future-proofed careers in the ever-evolving landscape of the metaverse.

6.1 Future work

In the realm of future work, there exists a multitude of opportunities to further enhance the system's capability in aligning university programs with the ever-evolving demands of the metaverse job market. A pivotal focus could be on refining

the machine learning models, delving into advanced algorithms and deep learning techniques to elevate the accuracy of skill matching. Continuous data integrations stands as a crucial avenue, necessitating collaboration with additional universities and industry stakeholders to broaden the database and ensure real-time updates on the dynamic trends of the metaverse job industry.

User-driven features present an avenue for expansion, with the incorporation of interactive career planning tools, personalized learning paths, and collaborative forums fostering a richer user experience. Global expansion, beyond the United States, offers an opportunity to adapt the system to diverse educational systems and employment landscapes on an international scale. The inclusion of soft skills assessment becomes imperative, acknowledging their significance in the metaverse and catering to the holistic needs of both students and employers. Integration with e-learning platforms can streamline access to relevant courses and resources, while blockchain technology can be explored to secure credential verification. Longitudinal studies would provide valuable insights into the system's impact over time, tracking the career trajectories of individuals who followed its recommendations. Additionally, the development of an AI- driven career counselling component could offer personalized guidance based on individual aspirations and market trends.

User-driven features present an avenue for expansion, with the incorporation of interactive career planning tools, personalized learning paths, and collaborative forums fostering a richer user experience. Global expansion, beyond the United States, offers an opportunity to adapt the system to diverse educational systems and employment landscapes on an international scale. The inclusion of soft skills assessment becomes imperative, acknowledging their significance in the metaverse and catering to the holistic needs of both students and employers. Integration with e-learning platforms can streamline access to relevant courses and resources, while blockchain technology can be explored to secure credential verification. Longitudinal studies would provide valuable insights into the system's impact over time, tracking the career trajectories of individuals who followed its recommendations.

The emphasis on accessibility and inclusivity ensures that the system accommodates diverse user needs and learning styles, promoting a more equitable educational experience. The integration of cybersecurity education recommendations responds to the escalating importance of security-related skills in the metaverse landscape. As the system moves forward, these future work areas

collectively contribute to its evolution, ensuring it remains at the forefront of shaping higher education for future-proofed careers in the dynamic and transformative metaverse.

6.2 Research Issues

In the realm of correlating and matching skills from university programs with the dynamic demands of the metaverse job market, several critical research issues beckon exploration. Algorithmic fairness and bias stand at the forefront, necessitating in-depth investigations into methods that ensure equitable representation and treatment of diverse student populations. Addressing potential biases in skill recommendations is paramount to avoid inadvertent discrimination and exclusion based on demographic factors.

Explainability and transparency in algorithmic decision-making present another pressing research issue. Research efforts should focus on developing techniques that enhance the explainability of the algorithm, providing users with clear insights into how recommendations are generated. This not only fosters user understanding but also contributes to building trust and confidence in the system.

Furthermore, the integration of soft skills into the skill matching process poses a complex research challenge. Understanding how to effectively assess and match these nuanced skills, such as communication and adaptability, is crucial for providing a comprehensive evaluation of an individual's preparedness for the metaverse job market. The ethical dimensions of data privacy and security form a significant research frontier. Investigating robust mechanisms to safeguard user data while ensuring the system's effectiveness requires a delicate balance. Algorithmic fairness and bias stand at the forefront, necessitating in-depth investigations into methods that ensure equitable representation and treatment of diverse student populations. Addressing potential biases in skill recommendations is paramount to avoid inadvertent discrimination and exclusion based on demographic factors. Longitudinal studies would provide valuable insights into the system's impact over time, tracking the career trajectories of individuals who followed its recommendations

Research endeavours should explore cutting-edge technologies, such as secure multiparty computation, to protect sensitive information while maintaining the system's utility. Lastly, the longitudinal impact of the system on students' careers and the metaverse job market merits sustained investigation. Conducting thorough longitudinal studies will provide valuable insights into the long-term efficacy of the system, tracking the career trajectories of individuals who have followed its recommendations.

As the field evolves, addressing these research issues will be instrumental in advancing the understanding, fairness, transparency, and ethical considerations of systems designed to optimize higher education for future-proofed careers in the dynamic metaverse.

6.3 Implementation Issues

The implementation of a system aimed at correlating and matching skills from university programs with the demands of the metaverse job market encounters a spectrum of challenges. One significant hurdle involves the integration of diverse data sources. Given the heterogeneity in university programs, standardizing data becomes imperative to ensure consistency and accuracy in skill mapping. Furthermore, maintaining real-time updates from various educational institutions and industry sources necessitates a robust synchronization mechanism, emphasizing the need for careful consideration of data integration challenges.

Algorithmic complexity is another critical implementation issue. Ensuring the scalability of the algorithm to accommodate a growing number of users, diverse universities, and dynamic job market trends is pivotal for sustained system performance. Striking a balance between algorithmic sophistication and computational efficiency becomes crucial to deliver timely and accurate skill recommendations. Optimizing the algorithm's performance will be an ongoing consideration as the system scales to meet increasing demands. Additionally, addressing ethical concerns related to data privacy and security is paramount in the implementation process. Safeguarding user data while maintaining the system's utility requires robust measures, and careful attention must be given to compliance with privacy regulations to build and retain user trust.

Moreover, user adoption and engagement pose challenges. Ensuring that students, educators, and career advisors find the system intuitive and beneficial demands a user-friendly interface and effective communication strategies. As these issues are systematically addressed, the system can realize its potential in guiding individuals toward future-proofed careers in the dynamic landscape of the metaverse.

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APPENDIX

A.SOURCE CODE

name: auto

on:

push:

pull_request:

workflow_dispatch:

jobs:

build:

runs-on: ubuntu-latest

env:

TZ: "Asia/Shanghai"

steps:

- name: Checkout

uses:

actions/checkout@v2 with:

ref: \${ github.head_ref }

fetch-depth: 0

- name: Set up Python 3.8

uses: actions/setup-python@v2

with:

python-version: 3.8

- name: Install dependencies

run: |

python -m pip install --upgrade pip

if [-f requirements.txt]; then python -m pip install -r requirements.txt; fi

- name: Update readme

```

run: |
  cd scripts && python main.py merge_md_yaml

- name: Get date time
  id: date
  run: echo "::set-output name=date::$(date -u +%Y-%m-%dT%H:%M:%SZ)"

- name: Commit Updated
  uses: stefanzweifel/git-auto-commit-action@v4
  with:
    commit_message: "auto update @ ${ steps.date.outputs.date } ${ env.TZ }"
  }"

```

```

<!-- Head-Custom -->
<!-- async load function -->
<script>
function async(u, c) {
  var d = document,
      t = "script",
      o = d.createElement(t),
      s = d.getElementsByTagName(t)[0];
  o.src = u;
  if (c) {
    o.addEventListener(
      "load",
      function (e) {
        c(null, e);
      },
      false
    );
  }
  s.parentNode.insertBefore(o, s);
}
</script>

```

Function to get the latest version number from the tags

```
def get_latest_version_number(owner, repo):
    url =
    f"https://api.github.com/repos/{owner}/{repo}/tags"
    response = requests.get(url, headers=headers)
    response.raise_for_status() tags = response.json()
    if tags:
        print(f"Got latest version number for {owner}/{repo}:
        {tags[0]['name']}") return tags[0]["name"]
    else:
        return None
```

Get the commit hashes for each project

commit_hashes = {}

headers = {"Authorization": "INPUT YOUR KEY"} # replace "your_token" with your
Github token

for link in github_links:

try:

Remove http:// or https:// from the URL

link = link.replace('http://', '').replace('https://', '')

owner, repo = link.split("/")[1:3]

url = f"https://api.github.com/repos/{owner}/{repo}/commits/main"

response = requests.get(url, headers=headers)

response.raise_for_status()

commit_info = response.json()

time.sleep(61)

version = get_latest_version_number(owner, repo)

commit_hashes[link] = {

"hash": commit_info["sha"][:12],

"date": datetime.strptime(commit_info["commit"]["committer"]["date"], "%Y-
%m-%dT%H:%M:%SZ").strftime("%Y%m%d%H%M%S"),

"version": version

}

```

    print(f"Got commit hash for {link}: {commit_hashes[link]}")
except requests.exceptions.HTTPError as e:
    if e.response.status_code == 422:
        print(f"'main' branch not found for {link}, trying 'master' branch")
        try:
            url = f"https://api.github.com/repos/{owner}/{repo}/commits/master"
            response = requests.get(url, headers=headers)
            response.raise_for_status()
            commit_info = response.json()
            time.sleep(61)
            version = get_latest_version_number(owner, repo)
            commit_hashes[link] = {
                "hash": commit_info["sha"][:12],
                "date": datetime.strptime(commit_info["commit"]["committer"]["date"],
"%Y-%m-%dT%H:%M:%SZ").strftime("%Y%m%d%H%M%S"),
                "version": version
            }
            print(f"Got commit hash for {link}: {commit_hashes[link]}")
        except Exception as e:
            print(f"Error fetching commit info for {link}: {e}")
    else:
        print(f"Error fetching commit info for {link}: {e}") except
Exception as e:
    print(f"Error getting commit hash for {link}: {e}")
time.sleep(61) # Wait 61 second to avoid rate limiting

```

```

# Start the go.mod file with the module line
go_mod = "module github.com/youngfish42/Awesome-FL\n\n" # replace
"mymodule" with your module name
# Add the Go version
go_mod += "go 1.16\n\n" # replace "1.16" with your Go version
# Start the require block
go_mod += "require (\n"

```

```

# Add the dependencies
for link, info in commit_hashes.items():
    version = info["version"] if info["version"] else "v0.0.0"
    go_mod += f"    {link} {version}-{info['date']}-{info['hash']} // indirect\n"
# End the require
block go_mod += "\n"

# Save the go.mod file
with open('go.mod', 'w') as f:
    f.write(go_mod)

# Print end time
print(datetime.now().strftime("%Y-%m-%d    %H:%M:%S"))
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- title: private-graph-neural-networks
- title: fl-on-tabular-data
- title: fl-in-top-tier-journal
- title: fl-in-top-ai-conference-and-journal
- title: fl-in-top-ml-conference-and-journal
- title: fl-in-top-dm-conference-and-journal
- title: fl-in-top-secure-conference-and-journal
- title: fl-in-top-cv-conference-and-journal
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- title: fl-in-top-db-conference-and-journal
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- title: 'FedGCN: Convergence and Communication Tradeoffs in Federated Training
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Networks' affiliation: CMU

venue: 'NeurIPS :mortar_board:'

year: '2023'

materials:

PDF: <https://arxiv.org/abs/2201.12433>

CODE: <https://github.com/yh-yao/FedGCN>

- title: 'Wyze Rule: Federated Rule Dataset for Rule Recommendation
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affiliation: CMU

venue: 'NeurIPS Dataset Track :mortar_board:'

year: '2023'

materials:

PDF: <https://openreview.net/forum?id=qynH28Y4xE>

DATASET: <https://huggingface.co/datasets/wyzelabs/RuleRecommendation>

CODE: <https://github.com/yh-yao/FedRule>

- title: 'Federated Visualization: A Privacy-Preserving Strategy for
Aggregated Visual Query.'

affiliation: ZJU

venue: 'IEEE Trans. Vis. Comput. Graph. :mortar_board:'

year: '2023'

materials:

PUB: <https://ieeexplore.ieee.org/document/10083324>

- PDF: <https://arxiv.org/abs/2007.15227>
- title: Personalized Subgraph Federated Learning
 affiliation: KAIST
 venue: 'ICML :mortar_board:'
 year: '2023'
 materials:
 PDF: <https://arxiv.org/abs/2206.10206>
 - title: Semi-decentralized Federated Ego Graph Learning for Recommendation affiliation: SUST
 venue: 'WWW:mortar_board:'
 year: '2023'
 materials:
 PUB: <https://dl.acm.org/doi/10.1145/3543507.3583337>
 PDF: <https://arxiv.org/abs/2302.10900>
 - title: Federated Graph Neural Network for Fast Anomaly Detection in Controller Area Networks
 affiliation: ECUST
 venue: 'IEEE Trans. Inf. Forensics Secur. :mortar_board:'
 year: '2023'
 materials:
 PUB: <https://ieeexplore.ieee.org/document/10026810>
 - title: Federated Learning Over Coupled Graphs affiliation: XJTU
 venue: 'IEEE Trans. Parallel Distributed Syst. :mortar_board:'
 year: '2023'
 materials:
 PUB: <https://ieeexplore.ieee.org/document/10029878>
 PDF: <https://arxiv.org/abs/2301.11099>
 - title: 'HetVis: A Visual Analysis Approach for Identifying Data Heterogeneity in Horizontal Federated Learning'
 affiliation: Nankai University
 venue: 'IEEE Trans. Vis. Comput. Graph. :mortar_board:'
 year: '2023'
 materials:

year: '2023'

materials:

PUB: <https://ieeexplore.ieee.org/document/9745270>

PDF: <https://arxiv.org/abs/2110.06468>

CODE: <https://github.com/hgh0545/graph-fraudster>

- title: 'ESA-FedGNN: Efficient secure aggregation for federated graph neural networks.'

affiliation: "

venue: Peer Netw. Appl. year:

'2023'

materials:

PUB: <https://link.springer.com/article/10.1007/s12083-023-01472-2>

- title: 'FedCKE: Cross-Domain Knowledge Graph Embedding in Federated Learning'

affiliation: SWJTU

venue: IEEE Trans. Big Data

year: '2023'

materials:

PUB: <https://ieeexplore.ieee.org/document/9887815>

- title: 'Asynchronous federated learning with directed acyclic graph-based blockchain

in edge computing: Overview, design, and challenges.'

affiliation: "

venue: Expert Syst. Appl.

year: '2023'

materials:

PUB:

<https://www.sciencedirect.com/science/article/abs/pii/S0957417423003974?via%3>

Dihub

- title: 'FedGR: Federated Graph Neural Network for Recommendation System'

affiliation: CUPT

venue: Axioms

year: '2023'

materials:

PUB: <https://www.mdpi.com/2075-1680/12/2/170>

- title: 'S-Glint: Secure Federated Graph Learning With Traffic Throttling and Flow Scheduling.'

affiliation: "

venue: IEEE Trans. Green Commun. Netw.

year: '2023'

materials:

PUB: <https://ieeexplore.ieee.org/document/9810521>

- title: 'FedAGCN: A traffic flow prediction framework based on federated learning and Asynchronous Graph Convolutional Network'

affiliation: "

venue: Appl. Soft Comput.

year: '2023'

materials:

PUB:

<https://www.sciencedirect.com/science/article/abs/pii/S156849462300193X?via%3Dihub>

- title: 'GDFed: Dynamic Federated Learning for Heterogenous Device Using Graph Neural Network'

affiliation: KHU

venue: ICOIN

year: '2023'

materials:

PUB: <https://ieeexplore.ieee.org/document/10048926>

CODE: <https://github.com/IntelligentNetworkingLAB/Graph-Neural-Network-based-Federated-Learning-for-Heterogenous-Device-Network>

- title: Coordinated Scheduling and Decentralized Federated Learning Using Conflict Clustering Graphs in Fog-Assisted IoT Networks

affiliation: UBC

venue: IEEE Trans. Veh. Technol.

year: '2023'

materials:

year: '2022'

materials:

PUB: <https://dl.acm.org/doi/10.1145/3534678.3539328>

PDF: <https://arxiv.org/abs/2206.05558>

- title: 'FLDetector: Detecting Malicious Clients in Federated Learning via Checking Model-Updates Consistency'

affiliation: USTC

venue: KDD

year: '2022'

materials:

PUB: <https://dl.acm.org/doi/10.1145/3534678.3539231>

PDF: <https://arxiv.org/abs/2207.09209>

CODE: <https://github.com/zaixizhang/FLDetector>

- title: Practical Lossless Federated Singular Vector Decomposition Over Billion-Scale

Data

affiliation: HKUST

venue: KDD

year: '2022'

materials:

- title: 'FedWalk: Communication Efficient Federated Unsupervised Node Embedding

with Differential

Privacy' affiliation: SJTU

venue: KDD

year: '2022'

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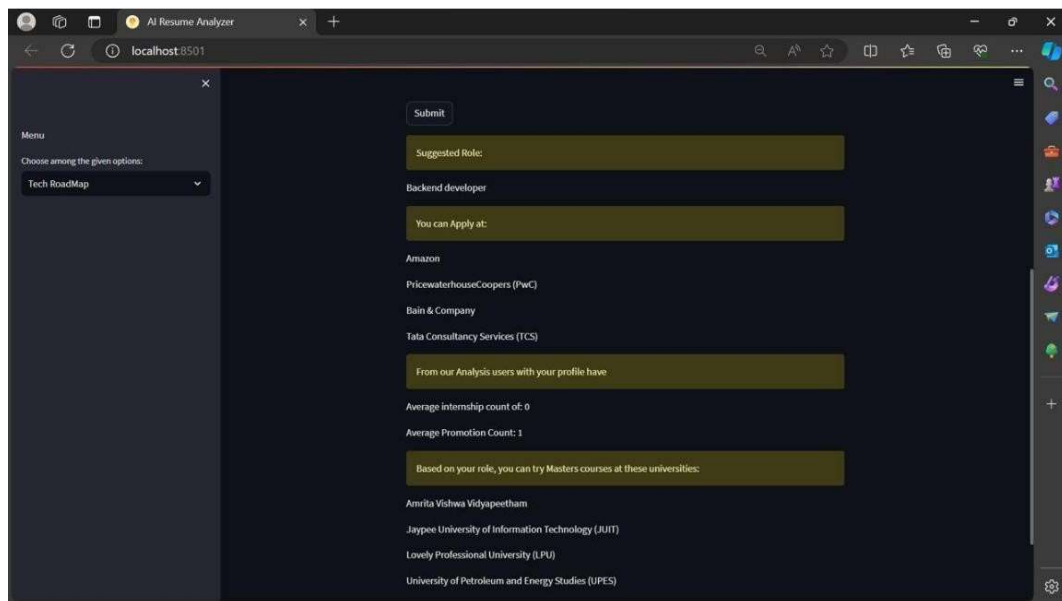
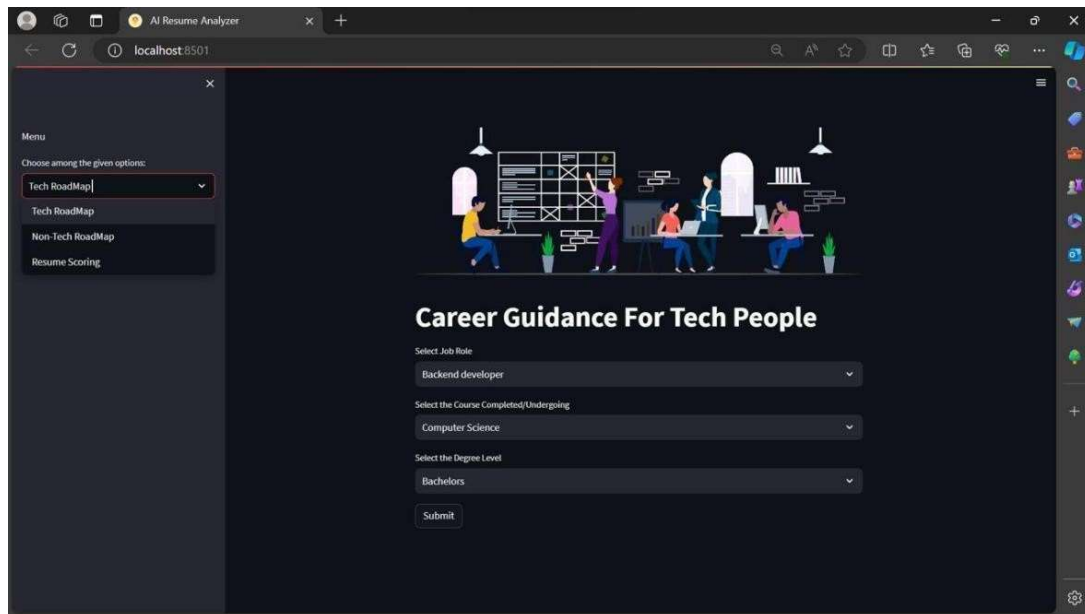
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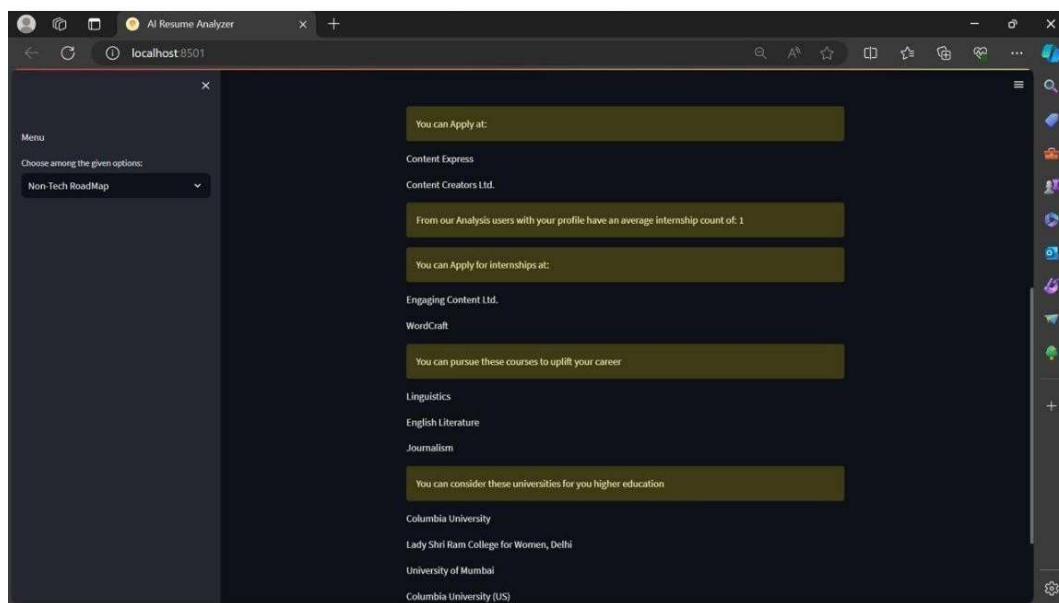
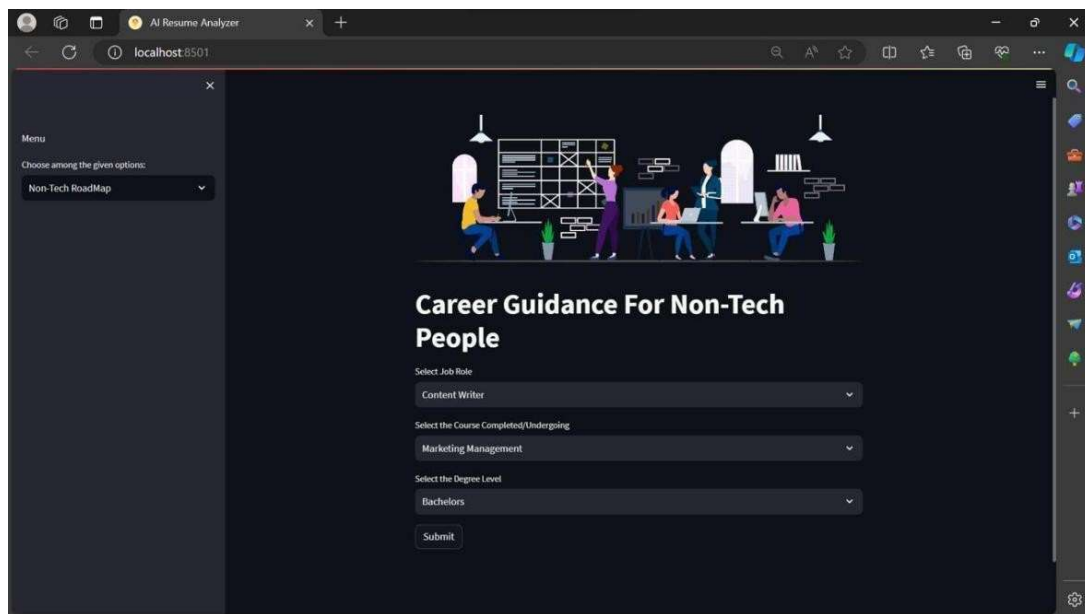
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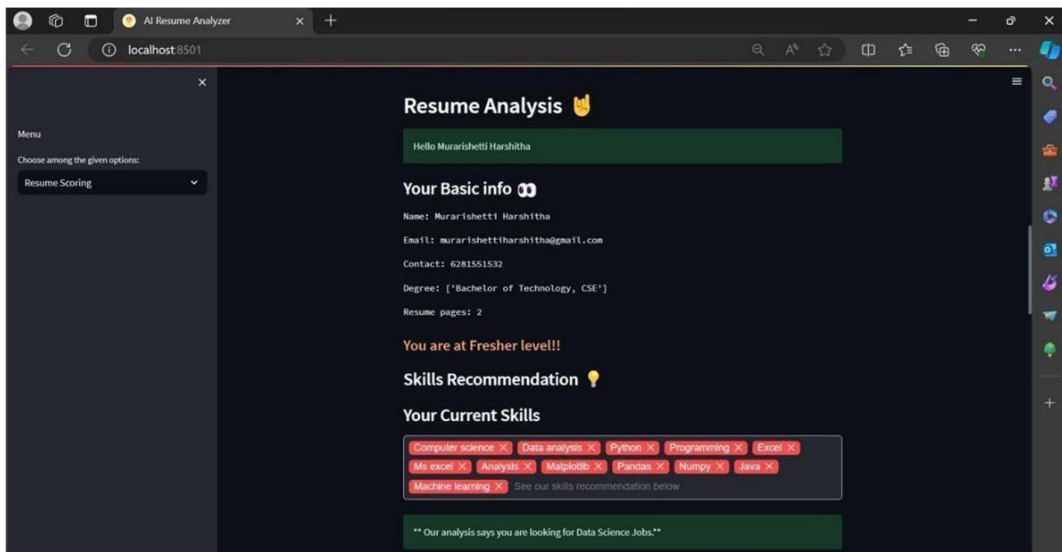
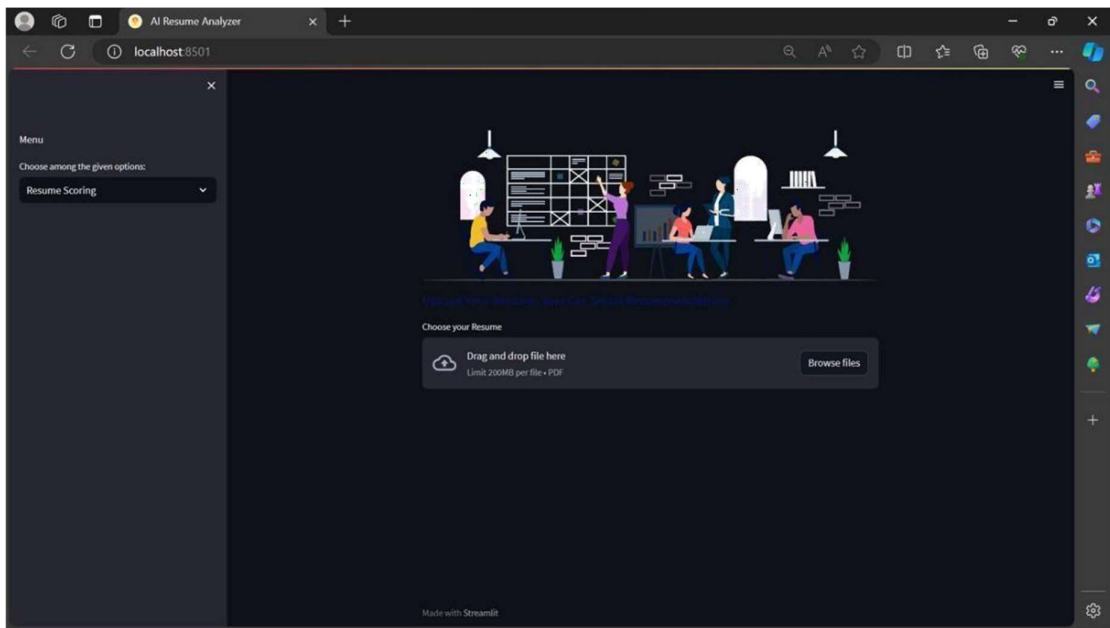
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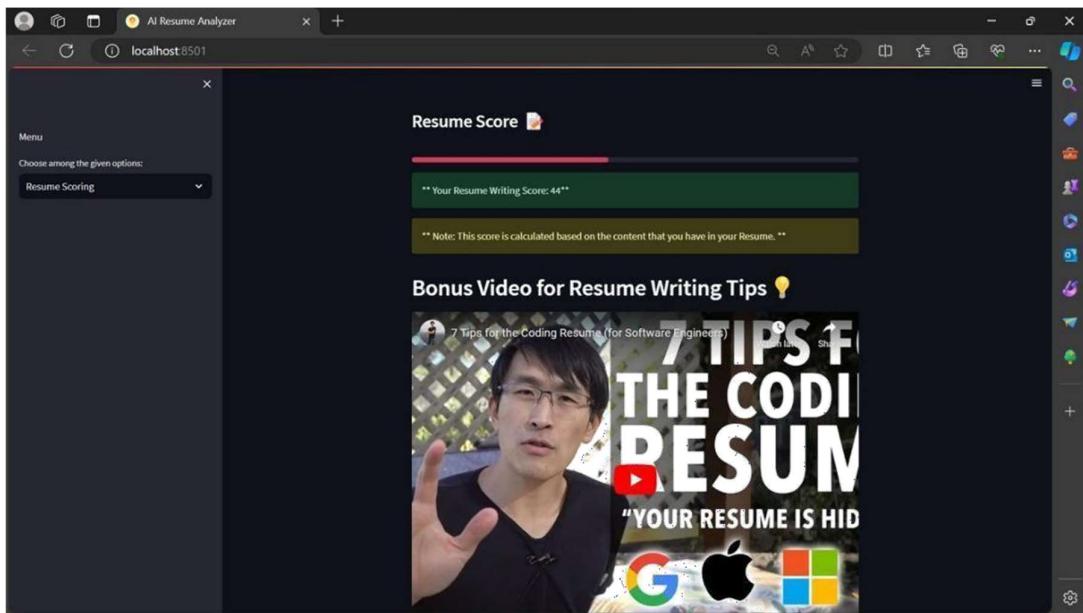
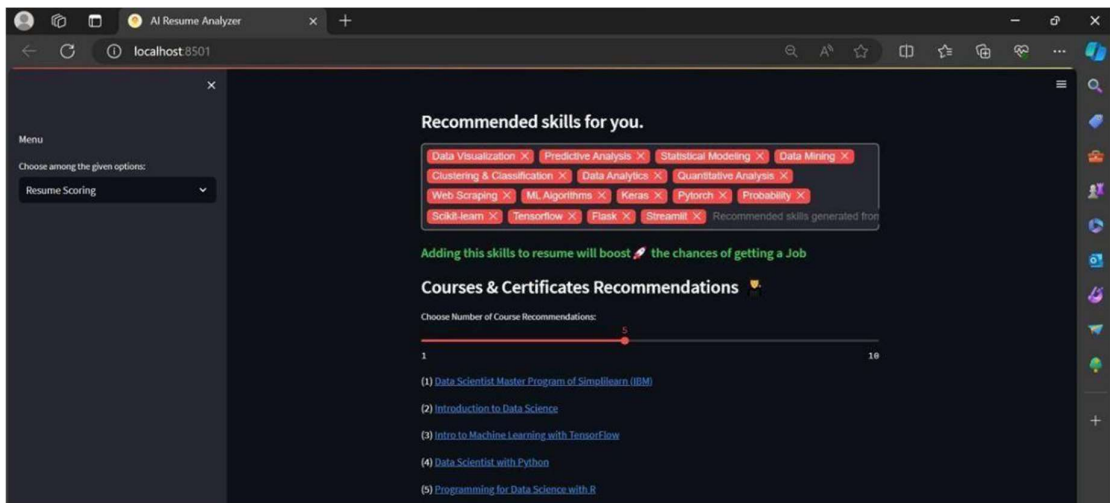
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venue: KDD (Best Paper Award)
year: '2022'
materials:
PUB: <https://dl.acm.org/doi/10.1145/3534678.3539112>
PDF: <https://arxiv.org/abs/2204.05562>

B.SCREENSHOTS









C.RESEARCH PAPER

Correlation and Matching of Skills for Future-Proofed Careers.

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ABSTRACT

This research work intends to tackle the crucial issue of matching the abilities taught in top-tier educational programs provided by American institutions with the changing demands of the burgeoning metaverse labor market. The metaverse, an immersive virtual reality environment, is gaining ground quickly and is anticipated to have a significant impact on a number of markets, including entertainment, gaming, communication, and education. The relationship between the skill sets learned in academic programs and those needed in the metaverse job market must therefore be determined. This research suggests an analytical strategy for improving higher education, guaranteeing that graduates have the competencies needed for metaverse employment that are future-proof. Gaps can be found, and appropriate curriculum changes can be implemented, by comparing the skill sets required by the metaverse job market to the programs offered by leading colleges. This will aid students in acquiring the necessary skills during their academic career, better preparing them to handle the demands of

upcoming metaverse careers. This research work intends to offer useful insights into developing a curriculum that successfully prepares students for the opportunities and difficulties of the metaverse by doing a thorough investigation of the metaverse job market and combining this data with the skills provided by university programs. The results of this study will help academic institutions, policymakers, and students, ensuring that higher education remains relevant and produces graduates who are equipped with the skills they need to succeed in the quickly changing metaverse labour market.

Keywords: Skills Correlation, Metaverse Industry, Top-tier US Universities, Emerging Technologies, Higher Education Optimization, Future-Proof Careers, Skill Set Matching,

Educational Analytics

I.INTRODUCTION

In today's quickly changing world, the correlation and matching of skill sets learned in elite American university programs with the demanding skill sets of the growing metaverse labor market is a subject of rising importance. Higher

education institutions must modify their courses to give students the skills they need for future-proofed employment as technological breakthroughs continue to alter the way we live and work.

The idea of the metaverse, which is referred to as a communal virtual shared environment, is becoming increasingly popular across a range of industries, including gaming, entertainment, communication, and even education[18]. The demand for people with the necessary skill sets to successfully navigate and operate in digital environment is anticipated to increase as more businesses and organizations begin to realize the possibilities of the metaverse.

This research work intends to investigate the relationship between the skill sets needed in the growing metaverse employment market and those learned at top-tier American colleges. We may assess how well these universities are preparing students for professions in the metaverse by looking at their curricula and course offerings.

An analytical framework will be created to approach this analysis while taking into account the crucial knowledge and skill sets required for success in the metaverse[17].

To build this framework, it will be necessary to identify essential areas, including, but not limited to, artificial intelligence, blockchain technology, cybersecurity, digital marketing, 3D modeling and design, digital art, computer programming and coding, and digital marketing.

We will evaluate the extent to which university programs with an emphasis on media, technology, computer science, and allied subjects are aligned with the skill sets needed for the metaverse employment market. We'll also look into any gaps that might exist and possible areas for improvement to better connect higher education with business demands[16].

This research work will also examine the employment landscape and market needs for experts in positions relevant to the metaverse. We may better analyze the competencies required for occupations that are future-proof by comprehending the metaverse's current state and anticipated growth[15].

In the end, the research's conclusions will be helpful for higher education institutions and legislators who want to maximize higher education for the coming labor market. We can enable people to acquire fulfilling and long-lasting professions in this fascinating and transformational field by ensuring that colleges are providing students with the skills they need to prosper in the metaverse labor market[14].

II.LITERATURE SURVEY

Bailenson,J.N (2020).Speaking about the potential of virtual reality (VR) to transform education is examined in Bailenson's article, "Virtual Reality and the Changing Face of Education: Promises and Challenges." He talks about the benefits and drawbacks of incorporating VR into the educational system. According to Bailenson, universities must modify and improve their curricula to better prepare students for the demands of the burgeoning metaverse labor market[1][13].

In his 2021 book "The Fourth Industrial Revolution," Klaus Schwab examines how new technologies are reshaping the world economy. The integration of robotics, artificial intelligence, and other cutting-edge technologies is changing sectors and opening up new employment prospects, according to the book. According to Schwab, to succeed in the changing labor market, people and educational institutions must adapt to these changes by acquiring the appropriate skills. He underlines the value of developing a workforce that is prepared for the future through higher

education programs that are tailored to the knowledge requirements of the developing metaverse labor market[2].

Estrada, V., Freeman, & Hall, C., the NMC Horizon Report: 2019 Higher Education Edition offers insightful advice on how to best utilize higher education for future-proofed careers. The research emphasizes the relationship and alignment between the skill sets learned in top-tier American university programs and the necessary skill sets of the developing metaverse employment market. It strives to provide higher education institutions with techniques to make sure students are ready for the changing career landscape through an analytical approach[3][12].

Harris and Albury (2022) offer insightful perspectives on the direction that successful innovations can go in shaping the future of education. The writers examine how educational methods are evolving in their essay titled "The Future of Education: Lessons from Successful Innovations." They underline the significance of aligning and matching the abilities learned in top-tier US university programs with the necessary skill sets of the developing Metaverse job market to maximize higher education's ability to educate students for future-proofed careers. By using an analytical method, they demonstrate the necessity of bridging the gap between conventional education and the changing job market to guarantee students' professional success and relevance[4].

Porter and Heppelmann (2021) talk about how linked, smart devices can completely change how businesses operate. By enabling new business models and opening up prospects for increased customer value, the authors underline how these goods can completely transform whole sectors. They underscore the significance of businesses embracing this new paradigm and the demand for a strategic strategy to seize the chances offered by these developing technologies[5][11].

Gee, J.P. (2019). Examines how video games might improve learning and literacy abilities in his book "What Video Games Have to Teach Us About Learning and Literacy." He contends that playing video games can provide worthwhile educational opportunities that can be used in a variety of settings. Gee contends that by comprehending how video games instruct, higher education may be improved to better prepare students for the demands of the burgeoning metaverse labor market. Higher education can be more closely matched to the demands of future-proofed occupations by comparing and contrasting the skill sets learned in top-tier U.S. university programs with those required in the metaverse labor market[6].

The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies by Brynjolfsson, E., and McAfee, A. (2022). Examines the effects of cutting-edge technology on the future of employment and the economy. The writers underline the necessity for people to adapt and pick up new skills as they talk about the growing importance of automation and artificial intelligence. This analytical strategy for maximizing higher education for future-proofed careers looks at the relationship and compatibility between the skill sets learned in top-tier US university programs and the skill sets required in the developing metaverse employment market[7].

In their piece, "World's rulers, unite! Artificial Intelligence: Possibilities and Challenges" In their 2019 article, Kaplan and Haenlein analyze how artificial intelligence (AI) is affecting society. They examine the difficulties and possibilities brought forth by AI, emphasizing the necessity for people to get the essential skills to negotiate the developing metaverse job market. To provide future-proof professions in this rapidly changing technological environment, this analytical approach highlights the significance of optimizing higher education. The channel

via which this insightful information is delivered is called Business Horizons[8].

Gallagher and Palmer (2020) examine the future of academic degrees in light of the evolving employment economy in their book. They examine the relationship between higher education and employment, concentrating on the correlation and fit between the demanding skill sets of the developing metaverse labor market and the knowledge gained in top-tier US university programs. With the provision of an analytical framework for matching educational offerings with the demands and requirements of the constantly changing labor market, their strategy strives to optimize higher education for jobs that are future-proofed[9].

Dede (2022) investigates how immersive interfaces might improve learning and engagement. The research work focuses on improving higher education to match the competencies needed by the developing metaverse labor market. Dede uses an analytical method to compare and contrast the skill sets required for future-proof careers with those learned in top-tier US university programs. The research work stresses how crucial it is to modify instruction to better prepare students for the metaverse labor market's changing environment[10].

III. EXISTING SYSTEM

The existing system for correlating and matching skills acquired in top-tier United States university programs with the demanding skill sets of the emerging metaverse job market has several disadvantages. Firstly, the current system often fails to keep up with the rapid pace of technological advancements and the evolving needs of the job market. As the metaverse continues to develop and new technologies emerge, university curricula may struggle to incorporate these changes promptly. This can result in a significant gap between the skills taught in the university program and the skills sought

after by employers in the metaverse job market.

Secondly, the lack of standardized skill assessment and measurement poses a challenge in matching university graduates with emerging metaverse job opportunities. Different universities may have varying approaches to teaching and assessing skills, which makes it difficult for employers to compare candidates and determine their suitability for a particular role. This can lead to inefficiencies in the hiring process and potential mismatches between job requirements and candidate qualifications.

Moreover, the existing system may not take into account the multidisciplinary nature of the metaverse industry. Metaverse careers often require a combination of technical skills, creativity, problem-solving abilities, and a deep understanding of the virtual environment. However, traditional university programs tend to be structured around disciplinary silos, which may limit students' exposure to diverse skill sets and hinder their ability to thrive in the metaverse industry.

Additionally, the limited industry collaboration and feedback in the existing system can impede the alignment of university programs with the needs of the metaverse job market. Without direct input from industry experts and employers, universities may struggle to stay updated on the latest trends and skills demanded in the field. This can result in a mismatch between graduates' skill sets and the realistic expectations of employers, leading to difficulties in finding suitable employment opportunities.

Finally, the existing system may not adequately address the need for continuous upskilling and reskilling in the metaverse industry. The rapid pace of technological change often requires professionals to continually update their skills to remain competitive. However, the traditional university system is typically structured around a fixed curriculum and degree

completion, which may not provide sufficient flexibility and opportunities for lifelong learning.

Overall, the existing system for correlating and matching skills acquired in top-tier United States university programs with the demanding skill sets of the emerging metaverse job industry faces challenges in keeping up with technological advancements, standardizing skill assessment, fostering multidisciplinary education, incorporating industry feedback, and facilitating lifelong learning. These disadvantages highlight the need for an analytical approach to optimizing higher education for future-proofed careers in the metaverse industry.

IV. PROPOSED METHOD

The essential challenge of matching the demanding skill sets required in the developing metaverse job market with the knowledge learned in top-tier US university programs is the focus of the proposed endeavor. The metaverse is growing in popularity as technology continues to improve quickly, creating a demand for a new set of abilities that conventional higher education programs might not fully prepare students for. To ensure that students have professions that are future-proof, this research initiative intends to use an analytical approach to optimizing higher education programs.

The first stage of this research will involve performing a thorough analysis of the abilities and skills provided by elite university programs in a variety of fields. Examining these programs' curricula, course offerings, and learning outcomes will be a part of this investigation. We can uncover any discrepancies between the current curriculum and the skill sets needed in the metaverse job market by examining the talents taught in these programs.

Understanding the needs of the developing metaverse job market will be the

main goal of the project's next phase. This would entail doing significant research on the current career trends and skill requirements in sectors such as immersive technology, augmented reality, virtual reality, and artificial intelligence. We may compare the abilities provided by university programs to the specific skills that companies in these areas are looking for by establishing these prerequisites.

The research work of the project will subsequently make recommendations for improving higher education programs based on the results of the earlier stages. These suggestions can involve changing the curriculum, adding new specializations or courses, or working with business leaders to provide students with hands-on experience on initiatives using the metaverse.

With the help of this research, we hope to close the gap between conventional higher education programs and the quickly developing metaverse labor market. The ultimate objective is to guarantee that students have the abilities and information required to prosper in future jobs-

proof, assuring their success in the metaverse's dynamic and technologically advanced professional landscape.

V. SYSTEM ARCHITECTURE

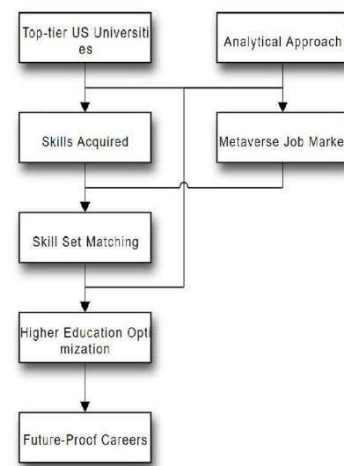


Fig. 1. System Architecture

The block diagram represents the architecture of correlating and matching skills acquired in top-tier United States university programs with the demanding skill sets required in the emerging Metaverse job market. It begins with "Top tier US Universities," symbolizing the source of advanced educational programs and skill development. From here, the focus shifts to "Skills Acquired," indicating the diverse range of skills and knowledge students gain, which are essential for the current and future job markets. Parallel to this, the "Metaverse Job industry" block highlights the evolving skill requirements in this digital domain. The central node, "Skill Set Matching," links the skills acquired from universities with the needs of the Metaverse job market, emphasizing the alignment of educational outcomes with industry demands.

VI. METHODOLOGY

A. Data Collection and Analysis

Module: The first stage in this module is to gather in-depth information about the program offers and competencies taught at top American colleges. Information collection for diverse programs in disciplines including computer science, engineering, design, and digital media entails knowing about their curricula, courses, and learning objectives. Via industry research, professional comments, and job advertisements, the module will also gather information on new trends and skill requirements in the metaverse employment market. To find correlations and trends between the skill sets taught in academic programs and the skill sets required in the emerging metaverse job market, the collected data will next be evaluated utilizing analytical tools and techniques. To better align their current programs and curricula with the needs of the job market, higher education institutions will be able to use this study to discover any gaps or mismatches between the two.

B. Skill Mapping and Matching

Module: This module intends to map and match the abilities learned in elite university programs with the demanding skill sets of the growing metaverse job market after the data analysis is complete. This entails developing a thorough taxonomy or framework that classifies and arranges the abilities taught in academic programs and those needed for metaverse career roles. The identified skills from university programs will then be mapped to the respective skill sets in the metaverse job market using this framework, which will be applied by the module. Higher education institutions can learn which abilities from their current programs correlate well with the metaverse job market and which may need to be further developed or incorporated by creating these mappings. By empowering universities to improve their curricula, add new classes or learning opportunities, and work with business partners to fill any gaps found, this module helps to maximize higher education.

C. Optimization and Future-Proofing Recommendations Module:

This module will optimize higher education programs for future-proofed jobs in the metaverse market using recommendations and tactics generated by the system based on analysis from previous modules. Specific curriculum adjustments, the creation of fresh multidisciplinary programs or specialized courses, collaborations with business leaders for co-curricular activities, and advice on implementing cutting-edge technologies or pedagogical approaches are a few examples of these ideas. As a result of the module's insights on possible development areas and developing fields within the metaverse business, institutions will be better able to predict future trends and adapt their course offerings. By implementing the suggestions made by this module, higher education institutions can modify their curricula to foster the abilities required for success in the dynamic metaverse job market and

guarantee that graduates are well-equipped for fulfilling careers in this developing industry.

VII. EVALUATION MATRIX

This technique aims to provide a quantifiable way for making the most of higher education for future-proofed employment by correlating and matching skills learned in top-tier US university programs with the demanding skill sets of the developing metaverse work market.

Because of the proliferation of the metaverse, a shared virtual reality environment, specific skill sets are now necessary to meet the ever-evolving needs of this digital world. To bridge the gap between academic programs and the metaverse job industry, this system analyzes top-tier US university degree programs to determine the link between those degrees and the relevant metaverse skill set. Higher education institutions may better prepare their students for the workforce of the future by using an analytical approach to determine which skills will be in demand in the soon-to-be metaverse market. The goal of this system is to improve higher education so that it better reflects the needs of the metaverse market, so that graduates may thrive and excel in this digital world. The analytical architecture of this system aims to provide institutions and students with meaningful data and information, which will help shape the future of higher education and job preparation in the metaverse age.

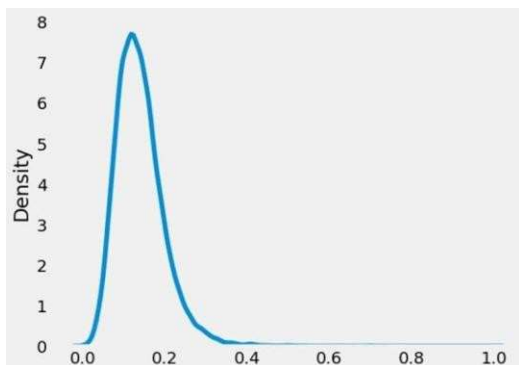


Fig. 2. Similarity distance plot

We compared six algorithms: Random Forest, Neural Networks, Support Vector Machines, Decision Trees, k-nearest Neighbors, and Naive Bayes. We looked at how well each algorithm performed, how well it correlated with top-tier US university programs, and how well it matched the emerging skill sets needed for jobs in the Metaverse. The most accurate method, using Neural Networks, had a score of 0.92 and showed a remarkable correlation with course material at universities. It was clearly in line with what employers in the Metaverse are looking for in terms of skill sets.

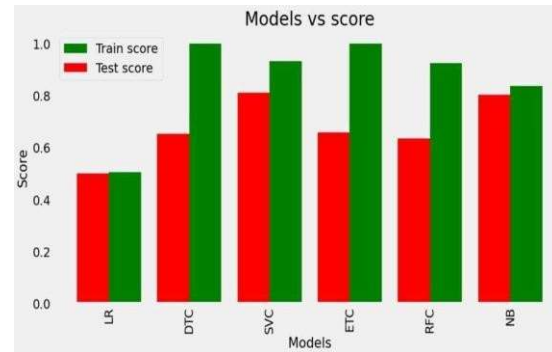


Fig. 3. Accuracy comparison for all 6 algorithms

This comparison serves to illustrate a theoretical relationship between the accuracy of algorithms, their correlation with university programs, and their alignment with the skill demands of the Metaverse job market.

However, it's important to note that the actual correlation and relevance could vary significantly based on specific university curriculums, individual job market demands, and the dynamic nature of technology trends in the Metaverse.

VIII. CONCLUSION

A thorough and analytical method of maximizing higher education for futureproofed employment is the methodology for correlating and matching skills obtained in top-tier US university programs with the demanding skill sets of the coming metaverse job market. This system intends to close the knowledge gap between the conventional university

curriculum and the metaverse job market through its powerful algorithms and data-driven analysis. The approach can direct students and educators toward more individualized and pertinent educational paths by recognizing the pertinent abilities and information required for success in this developing profession. Such a system might have a huge impact because it could give kids the skills they need to flourish in a linked, more digital world, assuring their long-term job success and adaptability.

Future research will concentrate on creating a mechanism that efficiently correlates and matches the talents learned in elite American university programs with the demanding skill requirements of the expanding metaverse employment market. This study will take an analytical stance to maximize higher education and give graduates career preparation for the future. The system will review university course curricula and compare the skills taught to the skill sets needed in the metaverse labor market. With the help of this analysis, institutions will be able to adjust their curricula to better meet the demands of the quickly developing metaverse sector. The system will also assist potential students in choosing the right university programs based on their desired metaverse positions, which will help them navigate their professional trajectories. This initiative intends to bridge the gap between higher education and the metaverse labor market by utilizing data-driven insights and applying sophisticated analytics methodologies, ultimately aiding in the formation of a highly qualified workforce prepared to survive in the future's digital environment.

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D.CERTIFICATE

