organisational structures for AI Ventures. This is a brand-new organisation that is still establishing itself. A simple and unambiguous specific objective, a flat hierarchy that encourages innovation and cooperation, and a focused team of experts that are enthusiastic about their job are all common characteristics of a good organisational structure for an AI start-up.

PLAN OF MY INTERNSHIP PROGRAM

OVERVIEW OF THE OFFICE AREA

Sydney Main Office

The administrative office of AI Ventures is situated at Level 6/11 York St in Sydney, Australia. On usual Mondays, this is where the entire staff gathers to hold meetings.

Home Office

The COVID-19 outbreak affected worldwide employment during its peak and drove IT industry to work from home. Similarly, AI Ventures allowed their employees to work from home because of the pandemic and adapted to new normal. Following to that, instead of commuting to physical office, employees can participate in meetings from the comfort of their own homes. Likewise, the business makes usage of online platforms to let employees communicate with one another. Slack and Zoom meetings are two of these tools. Video conferencing is also used by AI Ventures to facilitate communication among its employees. To enhance productivity and efficiency, AI Ventures allows its employees to work from home and contribute to meetings at their ease from home.

STARTING AND ENDING DATES OF INTERNSHIP

For my internship program, the formal start date was February 25th, 2022. On June 8th, 2021, it will come to an end. The start and end dates of my internship program are specified in the Internship Agreement Paper that I signed with AI Ventures on February 25th, 2022.

PART-TIME OR FULL-TIME

For my final semester, I am enrolled in a unit Major Project Internship Stream (COMP8851) which allows me to take a part-time internship with AI Ventures, working 3.5 days per week.

DEPARTMENTS JOINED

Technical Department

During my internship at AI Ventures, this was the main department that I worked for, and delivered my work pieces. The technical department of AI Ventures oversees creating and delivering AI-based products and solutions to consumers. The department is made up of a group of product managers, data engineers, and data scientists who collaborate to develop AI-based innovations and resolutions that match consumer needs.

TRAINING PROGRAM

DETAILED DESCRIPTION OF THE PARTICIPATING DEPARTMENT ACTIVITIES

The Chief Technology Officer (CTO) is a company's top executive who oversees the organization's technical strategies and software developments. The CTO is usually in charge of the entire technical department, including research and development, product development, marketing, and customer care. 'AI Driven CV Enhancer' is a project that I am currently working on. A variety of highly sensitive augmented AI systems are currently in use that need to be improved. Interns use Open-AI/GTP-3, numerous transformers, and NLP techniques, among other languages and tools.

INTERNSHIP MIDTERM REPORT

EXPLANATION OF THE ASSIGNED TASKS IN DETAIL

This project combines data collecting and analysis with AI enhancements which is at the heart of my Data Science learning. Because of my past studies in Computer Science and Engineering, this internship provides an excellent opportunity for me to apply my data science skills to a related field that I am familiar with. I have not yet used CV enhancement system, although having worked with a variety of technologies and applications relevant to the internship assignment. Combining this with AI appears to be a fascinating method to expand my data science knowledge.

As for myself, this will be my first extensive practical data science project. As a result, I see this as a chance to broaden my practical experience and, more importantly, to boost my resume for future companies. My major project corresponds to my project management classes from the same semester. In addition, the internship will allow me to sharpen a variety of soft skills, such as collaboration and self-organization. After all, I am grateful for the opportunity to complete my internship.

The project will focus on upgrading an existing AI application called "CV enhancer" developed by one of AI Ventures' portfolio companies. This start-up uses artificial intelligence in the recruitment industry. For fresh graduates, CVs are still the most important drivers of job placement. Our HR teams have begun work on a new AI project that aims to automate much of the existing knowledge into an AI-based model using a combination of Open-AI/GTP-3, various transformers, and NLP techniques.

CVs or LinkedIn profiles are still the most important component in determining whether a candidate gets shortlisted for a job interview in recruitment. This method is generally difficult for fresh graduates and takes a long time because it occurs during working hours, when applicants are frequently unable to write. Candidates should be able to use the CV enhancer answer automated software whenever it is convenient for them to make the process easier. After the app has been utilised, data will be analysed further.

Setting up Assistance Process of Continuous Improvement and Reporting

- Create an AI Knowledge Base for Customer Login in CV Enhancer

The goal of this programme is to turn raw skills and demand data into the most efficient approach to meet market standards. By analysing data trends and information, existing AI may detect applicant needs, such as, what are the critical talents to impress Human Resources and how to demonstrate those skills. The purpose of this internship is to get knowledge of current technologies to develop the CV enhancement system and to gain insight into current technology for a business possibility.

- Create a Knowledge Base Resume that the client can access

The section for building a knowledge base system should be included on the CV. This could include articles, blog entries, or other resources that the candidate thinks a potential employer would find useful. This information could be included in the resume's "Skills" section or kept distinct. The client should be able to access the knowledge base resume. This includes employing an easy-to-read and understand formatting style as well as presenting succinct, relevant information. The applicant's talents and expertise should also be highlighted in a way that is relevant to the position being sought.

Framework, processes, reporting, and policies should all be in place

- Acquire all the functional as well as non-functional constraints of project

The functional constraints of the system are stated as a collection of capabilities that it must provide. The system must be able to do certain tasks, such as "The system must allow the user to login" or "The system must allow the user to search for products". Similarly, the system should be comprised of non-functional requirements responses such as:

1. The application should be able to run on a variety of operating systems.
2. The application must be capable of handling massive amounts of information.
3. The application should be able to scale up or down depending on the situation.
4. The application should be simple to operate and comprehend.
5. The application should be adaptable to the needs of users.

- Using the collected data, calculate the optimal performance of a neural network

INTERNSHIP MIDTERM REPORT

The best performance of a neural network can be calculated by training it with the obtained data. This can be accomplished by a variety of techniques, including backpropagation. To begin, we organise and review the data to identify trends and patterns. This can be done manually, with software, or with a combination of the two. We chose manually from the Seek website in our circumstance. Then data analysis is utilised to improve decision-making, process optimisation, and relationship understanding.

Develop a system for continuous improvement and keep updates
- Develop and configure the Data Pool's Key Worlds.

Data that is accurate and free of errors is referred to as clean data. This information can be used to draw solid conclusions and make sound judgments. The Natural Language Toolkit (NLTK) is a Python module that allows you to process natural language (Dale, 2021). It is the most used Python platform for working with human language data (Wang & Hu, 2021). It includes a suite of text processing libraries for classification, tokenization, stemming, tagging, parsing, and semantic reasoning, wrappers for industrial-strength NLP libraries, and an active discussion forum to extract skills and requirements, as well as easy-to-use interfaces to over 50 corpora and lexical resources like WordNet (Rifano et al., 2020).

Configure and track Jira
- Make Sprint Plans, Backlogs, and Reports as needed

Jira is a project management software that allows you to track and manage issues. Bugs, features, and tasks may all be tracked with it. Jira can be used to track progress and ensure that issues are resolved as soon as possible. To keep your project on schedule, organise sprints, backlogs, and reports. To keep everyone accountable, assign issues to team members and provide due dates. To keep your project moving forwards, close bugs as they are fixed and release new versions. To keep everyone on the same page, use the built-in chat function to communicate with the team.

REFLECTIVE JOURNAL ENTRIES

WEEK 2

Goals, Activities and Outcomes

For the first week, I learned about the company's culture, principles, and objectives. Recognized the company's mission and operations. My supervisor and I talked about the role and its expectations. I asked inquiries and made a list of any concerns that I had. I evaluated the internship work and looked for any conditions that needed to be clarified. My supervisor and I addressed several issues and came up with an action plan. I finalised my understanding of my obligations and completed organisational prerequisites. Likewise, I double-checked all the internship requirements that I was obligated to meet and reported all the progresses into required paperwork. Also, we scheduled the orientation and induction date along with the weekly meetings.

Following to that, we also implemented the Agile project management methodology. Agile Scrum is an initiative that attempts to improve software development quality. On this project, business analysts, developers, and testers collaborated. The project's purpose was to use agile concepts and practises to improve the quality of software development. There are numerous resources available on scrum project management and how to execute it successfully. It was, nevertheless, preferable to learn from someone with prior knowledge in the field.

New knowledge, skills, and experience

Agile Improvement Solutions taught me GAP practises. Gap solutions can assist in closing the gap between where someone is now and where they wish to be in the future (Mishra & Otaiwi, 2020). This can assist people in moving forwards in their life and achieving their objectives. GAP solutions might help someone to find clarity and direction when they are feeling lost or stuck. These methods can assist in overcoming hurdles and challenges that are preventing someone from achieving goals. My attention was drawn to GAP on Agile Improvement Solutions. We are looking at any gaps in our agile improvement solutions. We examined the areas where our solutions failed. We attempted to uncover the core causes of the gaps using our agile improvement methods.

WEEK 3

Goals, Activities and Outcomes

During this week, I had to direct the AI venture CV enhancing project of this week. I created a 10-minute daily meeting to help the team grow as I grew more comfortable with the Scrum master path. As a scrum master, it was my responsibility to guarantee that scrum values, principles, and procedures were followed. The team also attempts to eliminate roadblocks to productivity. As a Scrum Master, I supervised guiding the scrum process and ensuring that everyone on the team follows the scrum framework. Likewise, I also checked and verified the Jira tool to track and report progress. The Scrum master oversees making sure the team follows the Scrum methodology and removes roadblocks to their progress (Karabiyik et al., 2020). The Scrum master is not a project manager, but rather a servant leader who assists the team in self-organizing and realising its full potential (Spiegler et al., 2021). Jira is a project management and tracking solution for Scrum projects (Spiegler et al., 2021). It can be used to generate and manage issues, assign tasks to members of the team, and keep track of the project's progress.

Verifying the data, extracting the roles, recording the data, and assisting in the creation of a profile of SEEK data were all duties for this week. We examined the upper and lower limits of contract roles in the database as soon as they were ready. We recognised the data, the pool was already clean, and we were eager for more progress and wanted to do better, so the Macquarie intern team worked swiftly in relate to that.

New knowledge, skills, and experience

I gained a better grasp of how the Scrum Master ensures the team following the processes and principles of Scrum. The Scrum Master is a servant-leader who assists the team in self-organizing and staying focused on the sprint goal, rather than a traditional project manager. The Scrum Master also serves as a coach and facilitator, assisting the team in identifying and eliminating roadblocks to development (Mishra & Otaiwi, 2020). The Scrum Master progression is a method of learning and mastering the Scrum framework (Bolloju et al., 2018). The course begins with an overview of Scrum, followed by a series of workshops covering various facets of Scrum.

In addition, I understood the responsibilities of a data analyst include identifying data, extracting roles, recording data, and assisting with profile creation. The team determined the main data sets and attributes required to support the study in collaboration with the data team. Analysts require assistance with data modelling and visualisation.

Rewarding Experience

It was an immensely satisfying experience for me to be a member of a team that was tasked with identifying the data, extracting the roles, recording the data, and assisting in the building of a data profile. The team came up with a solution after successfully identifying the data, extracting the roles, capturing the data, and creating a profile for the data. The team's success was aided by the fact that each team member was able to offer their specific set of talents and knowledge to the project.

Difficult Experience

The responsibilities were difficult to complete and took a lot of time as well as effort. However, I completed the tasks, and it was a challenging as well as exciting process at the same time.

Task for the upcoming week

The frequency analysis technique will be used for the next week to analyse the skills necessary for the task and feed it into the training module. This will aid us in determining what abilities are required for the assignment and how we can best prepare those. The frequency analysis method is a statistical strategy to analysing and feeding the required skill task to the training module. This strategy is used to identify the most important skills needed for a certain endeavour and then set aside time to train those talents. This method is frequently used to train the data of new employees or to retrain the data of existing employees for a new task.

WEEK 4

Goals, Activities and Outcomes

INTERNSHIP MIDTERM REPORT

For this week, we looked at the relationship between experience and pay rate. We were under a lot of strain since we had to analyse our data to figure out the right relationship between years of experience and rate factor. We urged our supervisor to apply the most efficient way to improve the analysis. We were concerned that our data was not clean enough for testing, despite our wish to use SPSS. We discovered a high association between years of experience and salary rate after analysing our data. A person with greater experience, for example, will get a higher wage. We were unable to fulfil the week's goal due to a misunderstanding of the anticipated model.

New knowledge, skills, and experience

Because of the NLTK library, we were able to gain a lot of experience during the week. Working in such a vast and well-organized library was a fantastic experience for me. This week, I feel like I learnt a lot about Natural Language Processing. In the future, I am interested in knowing more about it. To help with these duties, I've also learnt how to develop custom functions. To aid me in doing these duties, I have learnt how to develop bespoke corpora and wordlists. Furthermore, I have improved my understanding of how to use Python for text mining.

Teamwork is crucial in high-pressure situations to get the job done efficiently and effectively. It is easier to solve problems and come up with new solutions when everyone is working towards a same goal. Additionally, teamwork can aid in the reduction of stress and the development of morale. It is critical for people to be able to rely on one another while they are working together under duress. This means that team members must be able to trust one another and know that they can rely on one another to carry out their responsibilities. It is also critical that team members communicate well with one another. They can coordinate their efforts and ensure that everyone is on the same page this way.

Rewarding Experience

There is nothing more satisfying than being able to operate as a team under duress and emerge victorious. A sense of satisfaction and companionship that comes with conquering a challenge. When you're working on a project as a group, under duress, it is critical that everyone is on the same page and working towards the same goal. When lives are on the line, there is no room for error. To be effective in this type of work setting, you must have trust with team members. There must be open lines of communication and mutual respect. If a group can function effectively under duress, they will be successful. This is a genuinely fulfilling experience when you come together as a team.

Difficult Experience

It is simple to begin a task, but it is not necessarily simple to complete it. This is especially true if the work at hand is difficult. It can be tough to find the motivation to continue with a challenging work. It is all too simple to become discouraged and give up. Hence, it is vital for me to know that I am not alone in my struggles while I am working on a challenging endeavour. It is not uncommon for people to struggle with challenging activities. The secret to accomplishing difficult jobs is to find a way to keep going. Breaking the task down into smaller, more manageable portions is one approach to do this.

Task for the upcoming week

For the next week, we will be working on the same task as this week. We should apply the frequency analysis method to analyse the skill necessary for the activity once more, and feed that information into the training module. After that, we'll know what talents are required for the job and how to prepare for it as effectively as possible. We also need to understand the notion of servant leadership.

WEEK 5

Goals, Activities and Outcomes

The task we worked on this week was the same as the one we worked on the week before. We used the frequency analysis method once more to analyse the skill necessary for the task and feed that data into the training module. We were able to determine what abilities were required for the data and how to train the data to attain the greatest results by doing so. We looked at how experience affects salary rates in this week's study. We were able to discover a plausible association between years of experience and rate factor after analysing our data. We used NLTK to clean up the data, fill in missing values, eliminate stop words and non-alphabetic letters, and build a function as a second step in the frequency analysis. The

frequency of words in business analyst and data engineer requirements, as well as data analyst requirements, were discovered.

Likewise, our supervisor Callum employed HR advisors with company experience to better grasp the CV skills. As a result, she invited us to weekly meetings and gave insights to accessories. As a result, there was enhancement in the project development, and everything was updated on Jira.

New knowledge, skills, and experience

During this week, I learned how to mine text using Python. To assist me with these duties, I learnt how to construct custom functions. To aid me in doing these duties, I learnt how to develop customised corpora and word lists. In addition, I now have a better grasp of how to use Python for text mining. Similarly, I also learned about Servant leadership, which is a leadership concept where the leader's primary motivation is to serve others (Eva et al., 2019). It can be done in a variety of ways, including offering support and direction to team members, and taking up duties and responsibilities that might otherwise fall to others.

Rewarding Experience

Working as a scrum master was a highly fulfilling experience. We discovered that it was a fantastic approach to assist teams collaborate more effectively and efficiently, as well as a fantastic tool to gain a greater insight of a team's inner workings. Scrum masters, as previously said, may be an asset to a company by assisting in the improvement of communication and collaboration among the organization's teams.

Difficult Experience

It was a difficult experience for me to be the scrum master for my team. I was responsible for keeping the team on track and ensuring that everyone was doing their job. It was a lot of work, and I had to keep track of everything.

Task for the upcoming week

The assessment for the following week was to propose new keywords and phrases for GTP3 based on skill frequency analysis.

WEEK 6

Goals, Activities and Outcomes

Goals are met through finding data, extracting important roles, recording data, and creating a profile that may be utilised to establish data correlations. After the contract roles have been defined, the database has been used to analyse skillsets and requirements to match them to contract opportunities. Following to that, phrase extraction was a challenging part in this segment where we had to extract certain phrases for skill sets and requirements. My objective was to find the phrase that appears the most frequently among a group of phrases. When I utilised the frequency analysis function, it just counted the number of words, not the frequency with which they appeared. I would be grateful if there was a way to search for a term and count how many times it appears in a document. Meanwhile, Callum also proposed that we could make more graphs to show how the re-queried and skill data outputs interact with one another.

New knowledge, skills, and experience

During this week, I learned about GPT-3 which is a natural language processing platform that allows developers to train and deploy AI models. Text classification, entity recognition, and sentiment analysis are just a few of the functions available in the programme. GPT-3 enables programmers to create programmes that can understand and respond to natural language inputs (Dale, 2021). GTP 3 is a toolkit that enables the creation, testing, and deployment of chatbots and other conversational apps (Pilipiszyn & OpenAI, 2021). Natural language processing, dialogue management, and a chatbot development tool are among the characteristics of the tool.

Rewarding Experience

Using the GPT-3 open-source AI model was a fantastic experience. I was able to use a range of data sets to train the model and get good results. The model also performed well when applied to new data sets. The gpt3 Open-AI was a very enjoyable

experience for me. I was able to learn a lot about how the system works and how I may apply it to my own AI projects. This is something I would recommend to anyone interested in learning more about Open-AI or improving their own AI projects.

Difficult Experience

For a variety of reasons, I found it challenging to apply the GPT-3 Open-AI model. The model is initially very huge and requires a lot of computer resources to run. Furthermore, there is insufficient documentation, and the usage of model is unclear. To add to that, the model is always evolving, making it tough to keep up.

Task for the upcoming week

For the next week, we will be working on building a generative pre-trained transformer. As a result, we plan to construct a modified text using a pretrained model. To accomplish this, we will be using a pre-trained model to build customised texts from scratch. Following to that, we will make usage of a pre-trained model to fine-tune a new model for a given purpose. The task seems to be feasible, for example, to use a pre-trained model to generate creative techniques or product descriptions. It is also likely to fine-tune a new model based on a pre-trained model for a specific purpose, such as sentiment analysis or named entity identification.

WEEK 7

Goals, Activities and Outcomes

Not much of activity, goal, or outcome happened in this week. We were unable to contact with the supervisors regarding the project development. However, this week was invested for self-enhancement, research, as well as analysis. I worked on getting an insight on vectorization, transformation and RNN models etc.

New knowledge, skills, and experience

I was able to successfully construct the LSTM as well as RNN models. Likewise, I also gained an understanding of converting words to vectors with the usage of embeddings. This was a fantastic learning opportunity for me, and I am looking forward to using these skills in upcoming days.

Rewarding Experience

The implementations in relate to LSTM as well as RNN models produced an excellent result as per the expectations. This week was a lot of fun watching the CV enhancement project take shape, and I was excited to keep working on it.

Difficult Experience

Callum's HR members were not actively involved in the creation of scrum meetings, and the group was unable to construct a model. The group was undecided as to whether we should design a model or wait for something new to be introduced. It had been a rather uneventful week. I started constructing LSTM as well as RNN models to share with my team, and I was looking for ways to integrate keywords in phrases. I also demonstrated the team insights on how we may develop a website utilising Flash models and, if necessary, incorporate our model onto it. As week 8 was approaching, I was concerned about not completing the model and presenting it to the university.

Task for the upcoming week

No task has been assigned for upcoming week and I was waiting for a meeting with Callum for better understanding of the project development.

WEEK 8

Goals, Activities and Outcomes

After a zoom meeting with Callum and other team members, I got an understanding of the project development for this week. The data structure and keywords that we extracted showed anomalies. The extraction of keywords that we fetched

was not good enough to improve CVs. Callum instructed us to improve and refine our data cleaning part and extract the relevant keywords from the data set.

New knowledge, skills, and experience

During the analysis, I realised how important is the structure of words in English for the CV enhancement. Similarly, it was equally important for us to do the data cleaning part precisely and be aware of keywords and remove adjectives from the extracted keywords.

Rewarding Experience

Meeting with Callum, who is an expert in the industry, was a rewarding experience. The group was able to better comprehend the project development and enhance the technical skills with the guidance from him.

Difficult Experience

It was difficult for the team to analyse and remove anomalies from the extracted keywords. However, we were able to get rid of difficulties by communicating and cooperating with each other within the team.

Task for the upcoming week

As suggested by Callum, we were advised on working with the data cleaning part and making fetched keywords more precise. To add to that, upcoming week could be utilized on evaluating the skills required for certain role using a frequency analysis method and that information should be sent into the training module. Likewise, we need to find out approaches to train models efficiently after cleaning/refining the extracted keywords.

WEEK 9

Goals, Activities and Outcomes

During this week, we did a lot of analysis and brainstorming to improve the CV enhancement project. We were able to deduce the framework for extracting keywords but were unable to locate them in the data. Also, our team faced complexities with the data structure. Likewise, I proposed the group work on text generation techniques as well, resulting to that, I handed the team a structure based on RNN Model.

New knowledge, skills, and experience

As the project progressed, there were few complications; however, we were able to develop our efficiency by conducting research and self-evaluation. This helped me in learning key skills and strategies to be followed for time management and for being efficient. We were also able to communicate more effectively and work together to overcome the challenges of the project.

Rewarding Experience

It was genuinely satisfying for me to find effective ways to solve difficult tasks. We were able to accomplish more and understand from each other in the team by working collectively.

Difficult Experience

As an intern, we had a perception that it would be beneficial for us to receive advice on specific tools/techniques and presentations on accomplishing milestones. On this project, we mostly worked alone. Even though Callum was always there for us, I realised as being in a group of data scientists, we collectively as a team, must shape this project over time. Nobody ever showed us how to put the system together. However, we were aware of all these things and welcomed the challenges because we knew we already have the necessary education and experience required in this field.

Task for the upcoming week

For the upcoming week, allocated tasks will be data augmentation, machine learning and model building. Likewise, we will also be working on using various techniques to enhance the CV project and try to make it more accurate.

INTERNSHIP MIDTERM REPORT

WEEK 10

Goals, Activities and Outcomes

The objective of this week was to conduct a research and work on approaches for improving CV performance. I researched and read about popular strategies including data augmentation, transfer learning, and model assembly. I also tried out some of these strategies on the CV project. I gathered our group for our CV enhancement project to demonstrate how GPT-3 works and how private data may be created. Once GPT-3 has obtained the confidential data, we may not require the list or CSV file. GPT-3, in my perspective, could manage it all. I was concerned that this might not be in accordance with what Callum suggested earlier. However, to succeed, you must sometimes take a risk.

Firstly, we had a meeting with a Commonwealth Bank Full Stack Developer to obtain some tips on how to develop the system we were envisioning. Despite his efforts, he was unable to offer assistance because ML modelling was something he did not understand. Furthermore, we decided to seek assistance from Professor Amin on the structure of the CV enhancer project. Professor responded with an insightful article in the field of recruiting automation. That article improved the direction of our effort and was a huge benefit to us.

As a result, we created IVI, a chatbot-based SMS service that facilitates users to communicate and submit questions. IVI employs a decision tree paradigm in which nodes are created using a prompt. Callum, on the other hand, was not pleased with the idea of IVI, so we had to create a new method.

New knowledge, skills, and experience

Artificial intelligence technology that is made available to the public for usage and modification is referred to as open-source AI. This term generally refers to AI software that is provided under an open-source licence, which allows users to view and edit the source code without restriction. Similarly, TWILIO is a cloud-based messaging platform that enables companies to engage with their consumers using chatbots and other messaging apps. It enables companies to build, manage, and implement chatbots on a range of messaging platforms, such as Facebook Messenger, Skype, WhatsApp, and Twitter etc.

Likewise, I got an insight on Render that is a web-based design platform that allows designers and businesses to build, distribute, and manage custom websites and online storefronts. Users can construct professional-looking websites in minutes using render.com, even if they have no prior coding or design skills. Render.com also includes several built-in features and tools, such as eCommerce support, search engine optimization, social network integration, and so on.

Rewarding Experience

I was extremely happy with the progress of project development this week. Discovering efficient solutions to complicated challenges was certainly satisfying for me.

Difficult Experience

Debugging the GPT-3 code was the highly challenging task this week. I had some difficulties for operating the code appropriately, however, I was able to overcome the problem in the end.

Task for the upcoming week

The task for the forthcoming week will be getting insights on the usages of new model by studying through exploration and analysis. Similarly, we will also cover several parts of data visualisation.

WEEK 11

Goals, Activities and Outcomes

During this week, Callum organised a meeting to help us understand the system development. He identified the action verbs and explained how the past tense language functions to execute the decision tree model. He also explained how to

get rid of prejudiced terms. Following to that, he also conducted a GAP workshop where our data science team went through a real-world job scenario. On the other hand, we also did the required data visualisation and data analysis part.

New knowledge, skills, and experience

This week, I learned further about tools and techniques required for the enhancement of accuracy and performance of our system. I also had hands-on experience using these strategies on a real-world task. This was a fantastic learning opportunity for me, and I am looking forward to using these tactics in my upcoming projects.

Rewarding Experience

The outcomes of this week's effort delighted me greatly. It felt great to see the CV enhancement project go live and demonstrating it with Callum and other team members. To add to that, I am really looking forward to continuing working on this project even after the internship as it profoundly connects to real-world scenario, and it facilitates us to get various insights on any specific industry and job market.

Difficult Experience

We implemented several parts of the system on various platforms and notebook files, so compiling all those in a same place was a bit hectic.

Task for the upcoming week

The final week's task will be wrapping up the implementation and system development. Following to that, we are required to do appropriate data analysis such as creating word cloud, clusters, visualising plots/charts. The next week's task will be comprised of project deliverables and having an insight on key takeaways & learnings from this internship opportunity.

WEEK 12

Goals, Activities and Outcomes

To maximise the project development and wrap up the project accomplishment, we had several meetings this week for brainstorming, and compilation. Initially, we split the activities into four different categories based on the functionalities. The first part comprised of exploratory data analysis such as creation of bar charts/plots etc. for demonstration of various relationships between the variables and getting significant insights through it. Similarly, the second part included data cleaning, extraction of proper keywords and creation of clusters based on variables such as rate, skills etc. We used KNN algorithm for the implementation of clustering.

Likewise, the third part incorporated the GPT-3 implementation and execution of structured sentences. In this part, we fetched several data for sample action verbs/ tools etc. for our reference. Also, we split the sentences into several tokens and matched those elements with the defined dictionaries of sample action verbs and tools etc. To add to that, we also focused on measuring the degree of action verbs fetched and set the strong action verbs at first with the appropriate structure. Last part holds the documentation, compiling, implementing, debugging, and finally delivering the project.

During this week, I worked on the second and third part along with Ugur, my team member for the project. We explored different possibilities on establishing correlation between variables such as role, pay rate and skills etc. Similarly, we categorised the data into three different roles as data analyst, data engineer and business analyst. After the data extraction comes the cleaning part, where we used different libraries such as NLP, NLTK and Spacy etc. Similarly, we used K-nearest neighbours' algorithm for the second part for clustering.

Finally, after getting the extracted and refined keywords, we had to classify those appropriately. The important attributes for each classification were then obtained. We researched and used several classification techniques for this classification problem. For this project, Callum requested to our team to employ the decision tree method, and we achieved a 78% accuracy on that. Furthermore, the model can be improved by using larger datasets, extracting other relevant keywords, applying bi-gram tokens in place of unigrams, and enhancing the data pipelines using programmes like Pyspark.

New knowledge, skills, and experience

In Python, Aitextgen is a sophisticated library for creating text documents. It comes with several built-in classes for constructing various forms of text documents, such as character strings, paragraphs, and headings etc. Likewise, we learned about several clustering and classification techniques in python. The supervised machine learning clustering technique k-nearest neighbours (KNN) is an easy and simple method that can be utilized to handle both categorization as well as regression issues. Likewise, we also discovered various text processing libraries in relate to natural language processing, visualisation tools, and libraries in relate to Data cleaning.

Rewarding Experience

Collaborating with other members of the team was a fantastic experience. Despite the obstacles, we were able to operate efficiently and achieve our weekly objectives. We delivered the project as requested by Callum and I feel proud of what we did during these 12 weeks. It was a genuinely satisfying experience for overcoming the challenges and accomplish the objectives given.

Difficult Experience

To my understanding, this project is huge and could not have been completed in 12 weeks' time. However, we pushed our limits and tried our best to the extent we could. Resulting to that, it somehow impacted on myself getting exhausted during my part-time work and other activities.

WORK SAMPLES

AI VENTURES TECHNICAL PLAN

Since the AI Ventures Technical Plan contains confidential information, I will just provide a brief overview of the paper. In both the technical meeting and the meeting, the AI Ventures Technical Plan was presented. The plan was given the green light by the senior management team. The plan's major goal is to put up a consumer care system for AI Ventures' clients and consumers to report any problems with the company's products. It is made up of the following sections:

Scope
The plan's scope includes the plan's precise activities and objectives. It establishes the project's goal and serves as its foundation.

Deliverables
Deliverables are a catalogue of the items that must be produced for the plan to be realised.

Stakeholders
The plan's Stakeholders unit identifies the individuals that are participating in each approach. Each staff is designated a duty to help in the implementation of the plan.

Schedule
The project proposal's program was illustrated in a Gantt Chart. It identifies the targets for each job that must be maintained to carry out this project.

TECHNICAL INTEGRATION

I will provide a brief overview of the job due to the sensitive details about the process of integrating system with other platforms. The organisation makes usage of several platforms. I need to update the work deliverables to other platforms so that the support team can send auto-notifications and interface with other teams and departments within the company.

WEEKLY PRESENTATIONS