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Portfolio: <https://abhishek03312.github.io>

Graduating: May 2023

EDUCATION

Nanyang Technological University, Singapore

Aug 2019 – Jun 2023

Bachelor of science in Data science and Artificial Intelligence

- Dean's List AY-2019/20(top 5% in the cohort)
- Current CGPA: 4.31/5.00
- Relevant modules: Neural Networks and Deep Learning, Database System Principles, Software Engineering, Statistics, Data Analysis with computer, Developing Data Products, Data Visualization, Simulation Techniques in Finance, Scientific Communication II.

EXPERIENCE

Keppel Corporation Limited

Jan 2022 – Jun 2022

Analytics and Automation Intern (Group Internal Audit)

- Liaised with auditors to develop and manage big data pipelines to extract, transform and load financial transactions data.
- Spearheaded projects in different areas, processing unstructured data for projects involving graphical analysis and risk analytics.
- Worked in an agile work environment and collaborated with stakeholders from different business units to deliver solutions based on the requirements.
- Reduced processing time by almost 1/4th of original time taken and deployed the relevant processes for continuous assessment using dynamic PowerBI dashboards.
- Platforms and tools – Databricks, Python, PySpark, CosmosDB, Gremlin API, BERT, pdfplumber, PowerBI

Ubisoft

Jul 2021 – Sep 2021

Software Engineer (Machine Learning) Intern

- Developed a web application to extract video game end credits from game videos.
- Extracted text using computer vision and optical character recognition. Implemented k-means clustering to map respective job titles with the names of people.
- Designed an interactive user-interface according to the needs of the internal stakeholder, the HR department.
- Platforms and Tools – ReactJS, Flask, MongoDB, OpenCV, easyOCR

A*STAR

May 2021 – Jul 2021

Research Engineer

- Ascertained novel ways of pruning neural networks to make it more compact.
- Conducted research experiments on CIFAR10 and ImageNet datasets to validate new pruning rules.
- Developed and analyzed existing algorithms to push state-of-the-art further for sparsity and accuracy achieved after pruning.
- Plausible applications in enhanced processing for various machine learning applications.
- Platforms and Tools – Pytorch, docker

NTUitive

Jan 2020 – Mar 2020

Machine Learning Engineer

- Worked with a startup to develop a social media platform for knowledge sharing.
- Developed core recommendation system algorithms focusing on NLP.
- Analyzed and train ML models to improve performance.
- Performed data processing, topic modelling, hybrid recommendation system

ACADEMIC PROJECT

Nanyang Technological University, Singapore

Demand Forecasting Incorporating External Covariates – Final Year Project

Aug 2022 – Present

- Researching on predicting future demand for medical products using past trends and external factors.
- Exploring the use of the proposed forecasting pipeline for earthquake prediction.
- Analyzing the use of AWS to exploit cloud computational resources for better scalability.
- Platforms and Tools – Keras, Pytorch, AWS

Nanyang Technological University, Singapore**Speech Recognition system – Neural Networks and Deep Learning****Oct 2021 – Nov 2021**

- Proposed a pipeline using existing architectures to perform speech emotion recognition for individual speakers.
- Performed audio segmentation and trained a supervised learning model following the Siamese architecture to identify and differentiate between different speakers.
- Performed Data engineering to extract 175 features and train a speech emotion recognition (SER) model on the RAVDESS dataset.
- Enhanced model performance using repeated and accurate model validation.
- Platforms and Tools – Keras, TensorFlow

Nanyang Technological University, Singapore**JobsApply – Software Engineering****Feb 2020 – Apr 2020**

- Developed a robust application to help job seekers be more well equipped and relevant for the industry.
- The application recommends jobs and courses based on the industry and skills matched, user profile, vacancies, and the number of job seekers.
- Built a robust app to mimic real world applications including login, create and update user profiles and secure methods to change passwords.
- Platforms and Tools– React JS, Mongo DB, Django, Software development practices

MusicMoods – Song recommendation system**Mar 2020 – Apr 2020**

- Developed a song recommendation system using sentiment scores of the songs.
- Generates a playlist of 30 songs using Euclidian and cosine similarity techniques to generate the playlist using sentiment scores.
- Application allows user preference to select artist diversity and genre to generate the playlist.
- Tools – NLTK Vader, Text Blob

Spam Filter**Feb 2020 – Mar 2020**

- Developed a spam filter using Natural language processing techniques to classify text messages as spam or legitimate message
- Used predictors such as commonly occurring words in legitimate and spam messages as well as length of the text messages to classify the messages.
- Engineered custom features from unstructured textual data for processing.
- Tools - pandas, NumPy, scikit-learn, decision trees

CO-CURRICULAR ACTIVITIES**IEEE****Jun 2020 – Jun 2022****Logistics Director**

- Managed a team of 6 to organize multiple tech workshops in collaboration with different student clubs in NTU.
- Organized a virtual hackathon with over 700 participants across SEA, sponsored by top companies.
- Liaised with different vendors to procure and deliver participant swags and prizes

Runner's Club**Jun 2021 – Jun 2022****Assistant Projects Manager**

- Collaborated with mental health organization to host running events to raise funds.
- Spearheaded multiple in campus events for students in NTU to promote and encourage active lifestyle.

SKILLS**Languages:** Proficient in English and Hindi, conversant in Tamil, Spanish(L1)**Programming:** Python, MySQL, Java, JavaScript, C, C++, Gremlin, R**Applications and Frameworks:** Django, React, OpenCV, PySpark**Platforms:** Databricks, MongoDB, Flask, CosmosDB, Azure Data Lake, PowerBI**Analytics:** Statistics, Data Analysis, Data Visualization,**Other Skills:** Machine learning, Neural networks, Sentiment Analysis, PCA**Business/Domain Knowledge:**

- Developed greater understanding of business use cases and financial processes.
- Cross-team collaboration to meet the end user requirements.