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GitHub: https://github.com/ABHISHEK03312

Availability: Jan 2022 – Jun 2022

EDUCATION

Nanyang Technological University, Singapore　　　　　　　　　　　　**Aug 2019 – May 2023**

Bachelor of science in Data science and Artificial Intelligence

- Dean's List AY-2019/20(top 5% in the cohort)
- Current CGPA: 4.40/5.00
- Relevant modules: Software Engineering, Statistics, Data Analysis with computer, Scientific Communication II, Artificial Intelligence.

EXPERIENCE

Ubisoft　　　　　　　　　　　　　　　　　　　　　　　　　　　　**Jul 2021 – Present**

NTU Edge Program (Part-time)

- Developed a web application to extract game credits from videos.
- Extracted text using OpenCV and optical character recognition, easyOCR. Implemented k-means clustering to map respective job titles with the names of people.
- Currently designing an interactive user-interface using ReactJS to upload videos and extract game credits.
- Frontend Framework – ReactJS, Backend Framework – Flask, Database – MongoDB.

A*STAR　　　　　　　　　　　　　　　　　　　　　　　　　　　　**May 2021 – Jul 2021**

Research Engineer

- Ascertained novel ways of pruning neural networks to make them more compact.
- Analyzed pruning rules like global pruning to achieve state-of-the-art performance.
- Conducted research experiments on CIFAR10 and ImageNet datasets to validate new pruning rules.
- Developed and analyzed changes made to existing algorithms to push state-of-the-art further for sparsity and accuracy achieved after pruning.

NTUitive　　　　　　　　　　　　　　　　　　　　　　　　　　　**Jan 2020 – Mar 2020**

Machine Learning Engineer

- Working with a startup to develop a social knowledge platform.
- Develop core recommendation system algorithms focusing on NLP.
- Analyze and train ML models to improve performance.
- Involves working on data processing, topic modelling, hybrid recommendation system as well as NLP optimization

Nanyang Technological University, Singapore　　　　　　　　　　　**Aug 2020 – Jun 2021**

Undergraduate Student Researcher (URECA)

- Working with a professor on a project to analyze the adversarial attacks on DeepFake Detectors.
- Analyze different DeepFake detection algorithms and test potential vulnerabilities towards adversarial attacks.
- Study and develop robust DeepFake detectors to develop potential mitigation techniques against adversarial attacks.

ACADEMIC PROJECT

Nanyang Technological University, Singapore

JobsUpply – Software Engineering　　　　　　　　　　　　　　　　**Feb 2020 – Apr 2020**

- Developed a robust application to help students and 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 in the industry and the number of job seekers.
- The application uses external API's to generate the skills for each job which ensures that all the skills available for the users are universally accepted.
- Built a robust app to mimic real world applications which include login, create and update user profiles and secure methods to change passwords.

Algorithms - Project 2　　　　　　　　　　　　　　　　　　　　　　**Oct 2020**

- Objective of the project was to propose algorithms to find the path to the nearest hospital to each node that represents towns/cities.
- The project also required us to propose an algorithm which can be used to find the K-nearest hospitals to each node.

- The algorithm uses multi source BFS (breadth first search) to reduce time complexity as multiple instances of BFS run concurrently.
- The implementation of the algorithm is such that, graph traversal stops when the nearest hospital is found. This can be further modified to find the K-nearest hospital, i.e., graph traversal continues even after the nearest hospital is found.

Algorithms - Project 1   **Sep 2020**
- Objective of the project was to propose algorithms to solve searching algorithms in genome sequences.
- Implemented the Knuth-Morris-Pratt (KMP) algorithm and modified version of the Boyer Moore algorithms.
- The modification to the Boyer Moore algorithm takes inspiration from the KMP in keeping track of the indexes that have already been visited.
- The above modification significantly improved the performance of the searching algorithm.

MyStars – Course Registration system   **Sep 2020 – Nov 2020**
- Built a console version for the course registration system coded in Java
- Implemented various object-oriented programming methods like inheritance and object composition to build a robust console-based version.
- The registration system allows student and admin login with each user having a unique set of functions.
- Implemented the console version based on the SOLID design principles.

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.
- Used NLTK (Natural Language ToolKit) Vader and TextBlob to calculate sentiment scores.
- The application allows the user to select artist diversity, if one would like songs by the same artist or different artist based on the input given by the user.
- The application gives preference to the genre of the song that user inputs to generate the playlist (the initial dataset had 11 different types of genres).

Spam Filter   **Feb 2020 – Mar 2020**
- Developed a spam filter to classify text messages as spam or legitimate message.
- Used pandas, NumPy and scikit-learn to build and visualize the model.
- Applied Natural language processing to remove common words occurring in a sentence and remove punctuation marks.
- Used predictors such as commonly occurring words in legitimate and spam messages as well as length of the text messages to classify the messages.

CO-CURRICULAR ACTIVITIES

IEEE
Logistics Director
- Collaborated and organized workshops and hackathons with more than 500 participants.

Runner's club
Assistant Projects Manager
- Collaborated and organized workshops and events.

School of computer science and engineering
Sub-committee
- Organized campus tours and initiated activities for better interaction and bonding amongst exchange students
- Planned and hosted the Techfest in NTU

SKILLS

Languages: Proficient in English and Hindi, conversant in Tamil
Digital Skills:
- Python, C, C++, Java, MySQL, R, Django, React, HTML, CSS, Object Oriented Programming
- Machine learning, Deep Learning, Neural networks
- Sentiment Analysis, Principal Component Analysis
- Data analysis, Data visualization
- Statistics, OpenCV
- Working Knowledge in React native and unity.