ANANYA PRAKASH

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EDUCATION

Virginia Tech, MS Computer Science Aug 2023 - May 2025
Machine Learning, Information Visualization, Web Development, Human-Computer Interaction, Cloud Computing, NLP

Hong Kong University of Science & Technology(HKUST), BEng Computer Engineering Aug 2017 - May 2021
Data Mining, Machine Learning, Computer Vision, Object Oriented Programming, Data Structures and Algorithms

EXPERIENCE

Software Engineer in Data Analytics - JP Morgan Chase, Hong Kong Aug 2021 - Sep 2022

- Developed six data pipeline features to enhance data retrieval for ETL tasks using Java and Spring framework and seamlessly deployed to the cloud using Jenkins. Debugged and maintained the data warehouse using Python and SQL.
- Designed data models and developed interactive dashboards using data management, warehousing and visualization tools such as MS SQL Server, Denodo and Tableau. Extracted critical insights through visualization for data-driven decision making and enabled stakeholders to gauge product performance effectively.
- Engineered a high-efficiency automated alerting system for failed ETL processes, reducing process execution time by 75%. Incorporated a scalable workflow management system via Apache Airflow with advanced error-handling mechanisms and deployed it on Kubernetes. Reduced data pipeline failure recovery time by 82%.

Software Engineer Intern - JP Morgan Chase, Hong Kong Jun 2020 - Aug 2020

- Developed a responsive web application and a comprehensive database management system utilizing the MERN stack, empowering remote small-scale farmers in India to capitalize on economies of scale, contributing to a social good initiative.

PROJECTS

DilemmAI: Human-AI Text Classification System - Virginia Tech Jan 2024 - May 2024

Addressed rising online chat fraud by creating DilemmAI: a text classifier for human and AI-generated texts based on moral dilemmas. Developed a dynamic user interface with React and Flask and integrated a fine-tuned transformer-based classifier (DistilBERT) that incorporates both human-in-the-loop(HITL) and AI-only models. Resulted in a 91% accuracy and F1-score of 0.77 for the AI-only model and 89% accuracy and F1-score of 0.79 for the HITL model, with over 80% of users confirming they would leverage this system to verify online conversation authenticity.

Like prediction of ChatGPT-related TwitterX posts - Virginia Tech Aug 2023 - Dec 2023

Investigated public sentiment and emerging trends related to chatGPT using Twitter data and implemented a diverse array of algorithms such as Decision Trees, Logistic Regression, MLP, Naive Bayes, SVM, KNN, and Random Forest to classify tweets by likelihood of receiving high likes. Achieved a classifier accuracy of 71%, and identified significant spikes in activity corresponding with major events like new version releases and competitive launches from Anthropic and ClaudeAI. Visualized post trends and deployed on an interactive app using Python, Dash, Plotly, Seaborn and Google Cloud Platform.

Trend Analysis and Topic Modeling of Social Media Therapy accounts - HKUST May 2021 - Aug 2021

Conceptualized a research study to analyze the effect of mental health and therapy accounts on social media. Identified trends of mental health-related social media posts based on followers, content type, activity and hashtags using Python, NumPy, Pandas and Matplotlib. Performed topic modeling using LDA to extract the highest frequency mental health issues discussed on social media during COVID-19.

Masked Facial Recognition Access Control System - HKUST Sep 2020 - May 2021

Developed a masked facial recognition access control system to tackle the challenge of low accuracy of state-of-the-art facial recognition models on masked faces and provide a contactless access control system for campus facilities. Created a custom masked-face dataset, preprocessed images, and performed image augmentation to enrich the dataset. Developed a recognition system using MTCNN for face detection, FaceNet for feature extraction, and a KNN classifier for identification. The classifier achieved an accuracy of 77% and the project received the ”Best Final Year Project Demo” award.

SKILLS

Machine Learning NumPy, Pandas, TensorFlow, Scikit-Learn, Matplotlib, Regression, Classification, Clustering, Transformers, NLTK

Software Engineering Python, Java, JavaScript, React, MySQL, REST APIs, SpringBoot, Flask, Git, Certified Scrum Master

Cloud Computing Amazon Web Services, Google Cloud Platform, Kubernetes, Docker

Data Analytics SQL, Denodo, QlikSense, Tableau