AASHMAN RASTOGI

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EDUCATION

University of California, Los Angeles (UCLA) **Expected Graduation : June 2025**

B.S in Statistics and Data Science, Minor in Data Science Engineering

- ***Major GPA*** *3.8 – Dean's Honors List (Fall 2021, Spring 2022, Fall 2022)*
- ***Relevant Coursework*** **:** Data Structures & Algorithms, Python with Application (Data Science), Probability & Statistical Distributions, Statistical Finance, Building Systems with Chat GPT and Prompt Engineering (DeepLearning.AI)

TECHNICAL SKILLS

Programming Languages: C++, SQL, R , git, shell, Python (NumPy, Matplotlib, Pandas, Seaborn, Plotly, Scikit-Learn)
AI : Langchain, Openai, llama 2, TensorFlow, Huggingface, Prompt Engineering, LLM, PandasAI,
Software / Tools: Docker, GitHub, XCode, Visual Studios, R-studios, Microsoft suit, G-suit, Figma (UI/UX), Qgis, ArcGIS

WORK EXPERIENCE

Deloitte | Data Science Analyst Intern **June 2023 – September 2023**

- Leveraged OpenAI's GPT-3.5-turbo for code generation, explanation, and conversion using prompt engineering for a generative AI web service with 85-90% accuracy
- Led the development of comprehensive dataframe analysis using prompt engineering, GPT-3.5-turbo and PandasAI with 90% accuracy
- Collaborated closely with the development team for seamless front-end integration, and researched on alternate open source LLMs
- Implemented user-friendly functions for null value handling in datasets and led the integration of LLAMA-2 into Jupyter notebooks using quantization techniques

Absolutdata – An Infogain Company | Analytical Consulting Intern **December 2022 – January 2023**

- Dockerized the 'Navik - Marketing AI' application for deployment by a telecommunications firm in Africa, catalyzing an anticipated 15% revenue surge in Ghana
- Enhanced proficiency in Docker and Git operations by creating custom python test packages
- Acquired knowledge on business analytics and machine learning strategies used in the package, including Customer Lifetime Value (CLTV) prediction, cross-selling, and up-selling pathways, along with churn reduction and customer retention techniques

Edge of Space Academy: Spaceflight Instrumentation and Mission Design | Project Management Intern **July 2022 – August 2022**

- Led the Ashton Prairie Near Infra-Red Sensing team, overseeing drone construction for aerial imagery
- Develop data analysis algorithms and perform post-processing of images to extract near IR and red band data using python
- Analyzed Normalized Difference Vegetation Index (NDVI) values to discern vegetation health and stress levels during heatwave
- Developed the project within $1000, promoting it as a cost-effective solution for land management to US farmers and small corporations

RESEARCH

Sensing and Infrastructure for Robotics (SRI) lab at UCLA | Undergraduate Research Assistant **November 2023 – Present**

- Develop deep learning algorithms for vegetation classification and fuel map generation using satellite imagery for LA hillside area
- Design deep learning road damage detection systems using dashcam footage
- Contribute to regional safety and environmental conservation by LA county by incorporating AI in natural hazard-prone areas

UCLA Department of Earth, Planetary and Space Sciences | Undergraduate Research Assistant **April 2022 – November 2022**

- Collaborated with EPSS Ph.D. student to study Longmen Shan and Min Shan Mountain systems across the Tibetan Plateau and Sichuan Basin, applying Qgis for generating cross-sectional elevation profiles and visualizing data.
- Engineered topographic swath profiles, providing data-centric approach to understanding gradient variations in both ranges using python
- Digitized mineralogical maps in ArcGIS using coordinate transformation, for public research and data science applications

PROJECTS

Quantitative Analysis, Statistical Portfolio Management based on MPT **November 2023**

- Executed comprehensive portfolio analysis of 30 stocks in R, managing a $1,000,000 corpus with data from Yahoo Finance
- Developed and contrasted single and multi-index models, including scenarios with and without short sales, integrating risk-free assets
- Assessed portfolio performance using Sharpe ratio, Jensen's alpha, and Treynor's ratio, to measure effects of diversification

Credit Card Late Fee Prediction Model Based on Personal Characteristics **May 2023 - June 2023**

- Performed data cleaning and feature engineering, including label encoding and mapping to optimize for predictive modeling
- Streamlined feature selection through variance threshold and SelectKBest methods, isolating the top 10 variables for accurate predictions
- Harnessed machine learning models such as Random Forest and KNN with hyperparameter tuning, attaining an accuracy of 0.7405

Penguin Species Prediction **November 2022 - December 2022**

- Performed data cleaning and feature selection in Python, identifying a set of highly predictive variables for species classification
- Conducted comprehensive exploratory analysis, providing summary statistics and insightful visualizations of variable relationships
- Trained a multinomial logistic regression, Random Forest and SVM model achieving 97% accuracy in predicting penguin species

ORGANIZATIONS

BruinAI | Autonomous Vehicle ML Engineer **October 2023 – Present**

- Research and analyze datasets, focusing on driving conditions, weather patterns, and sensor data, essential for model development
- Develop rough model of transformer for focus and piecing together multiple cameras