Shubhankar Agrawal

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Experience

Machine Learning Engineer, Overseas Chinese Banking Corporation (OCBC) – Singapore Jan 2023 – Present

- Developed recommender systems for real-time user personalization, driving conversion rates of credit and treasury products, with a 3x uplift across marketing campaigns and $2 million revenue increase across customer segments.
- Incorporated Large Language Modelling frameworks to generate investment advice through a RAG-based text summarization project analysing over 2000 research documents across financial instruments.
- Enhanced customer satisfaction scores by 30% building a customer feedback scorer to prioritize critical concerns.
- Led a team to develop a standardized ML framework for the AI Lab, accelerating model deployment timelines by 50%, integrating big data and modelling libraries across the Python data science stack.

Software Engineer, JP Morgan Chase – Hong Kong Aug 2020 – Dec 2021

- Delivered new features and enhancements as a server-side developer on a suite of advisor CRM apps, working with asynchronous (Reactive) Java, SpringBoot, Kafka and the ELK stack in agile sprints.
- Streamlined support diagnosis and reconciliation by introducing an NLP solution to auto-reconcile data discrepancies saving 10 hours of manual intervention weekly increasing operational efficiency.
- Organized ML hackathons and technical sharing sessions as the Ignite APAC ML Community Lead 2021.
- Created a Capture the Flag challenge as part of onboarding for 100+ graduates to firmwide cloud and data platforms.

Data Science Summer Analyst, JP Morgan Chase – Hong Kong Jun 2019 – Aug 2019

- Improved digital marketing with fund flow projections for asset management applying time series forecasting models.
- Boosted global application uptime by 20%, building a classification-based instance autoscaling system for services deployed across AWS cloud platforms.

Quantitative Developer Intern, CryptAM Funds – Hong Kong Feb 2018 – Jun 2018

- Researched and introduced mathematical models for cryptocurrency price evaluation in trade analysis.
- Automated the daily pipeline for portfolio allocation with R and VBA, expediting daily runtime by 70%.

Projects

Optimizing One Pixel Black Box Attacks arxiv.org/pdf/2205.02116.pdf

- Performed research and optimized adversarial image generation reducing network calls on state-of-the-art DNNs.

A4 Paper Trading github.com/astronights/A4_Paper_Trading

- Created a Multi Agent Trading Bot to manage a BTC portfolio leveraging technical indicators and optimizing strategy.

Cryptle daily-cryptic-iief.vercel.app

- Developed a cryptic crossword puzzle with the Mongo, Express, React, Node stack + Typescript enhancing web skills.

Education

National University of Singapore – Master of Computing (Artificial Intelligence) Jan 2022 - Jan 2023
GPA: 4.65 / 5.00
University of Hong Kong – Bachelor of Engineering (Computer Science) Sep 2016 - Jun 2020
GPA: 3.72 / 4.30 [First Class Honours, Dean's Honour List]
Minors: Finance, French

Skills

Data Science: Machine Learning, Time Series Analysis, Natural Language Processing, Deep Learning (PyTorch), AB Testing
Big Data: Spark, Hive, Hadoop, SQL, MongoDB, Elasticsearch, Kafka, NumPy, Pandas, Polars, PowerBI, Tableau
Programming Languages: Python, R, TypeScript/JavaScript, Java | **Tools:** Git, AWS, Docker, Jupyter
Languages: English, Hindi, French, Tamil