Shubhankar Agrawal

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Experience

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

- Developed recommendation 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.
- Incorporated Large Language Model (LLM) frameworks to generate investment advice for Bank of Singapore customers with a RAG-based text summarization project analysing 2000+ research documents across financial assets.
- Led a team to develop a standardized Python ML framework for the AI Lab, accelerating model deployment timelines by 50%, integrating big data and modelling libraries across the data science stack.
- Created Flask applications to serve models via APIs, model monitoring, back-testing and A/B testing modules.
- Enhanced customer satisfaction scores by 30% building an NLP customer feedback scorer to prioritize user concerns.

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 biweekly agile sprints.
- Streamlined support diagnosis and ticket resolution by introducing an NLP solution to auto-reconcile data discrepancies saving 10 hours of manual intervention weekly increasing operational efficiency.
- Organized ML hackathons and regular technical sharing sessions as the Ignite APAC ML Community Lead 2021.
- Built 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%, with a predictive autoscaling mechanism across AWS cloud deployments.

Quantitative Developer Intern, CryptAM.fund – 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

HypoRS: Hypothesis Testing library with Polars for several statistical tests.	crates.io/crates/hypors/
Smart Segment: Optimization based customer segmentation to maximize revenue.	pypi.org/project/smart-segment/
Options Pricing: Rust module for Options Pricing and Greeks calculations.	github.com/astronights/options-rusty
A4 Paper Trading: Multi-Agent System to trade a BTC portfolio on tick data.	github.com/astronights/A4-Trading
Optimizing 1 Pixel Attacks: Adversarial Images for computer vision neural networks.	arxiv.org/abs/2205.02116
Instagram Marketing LLM: LLM auto-captioning to boost engagement.	github.com/astronights/insta-llm
Cryptle: Daily Cryptic Crossword puzzle with Mongo, Express, React, Node, Typescript.	daily-cryptic-iief.vercel.app

Education

National University of Singapore – Master of Computing (Artificial Intelligence)   Jan 2022 - Jan 2023
GPA: 4.65 / 5.00 [Postgraduate AI Scholarship]

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: Time Series Forecasting, Natural Language Processing, Deep Learning (PyTorch), A/B Testing, Storytelling
Big Data: Spark, Hive, Hadoop, Kafka, SQL, MongoDB, Elasticsearch, NumPy, Pandas, Polars, PowerBI, Tableau
Programming Languages: Python, R, TypeScript, Java, Rust | **Tools:** Git, AWS, Docker, Jupyter, Linux
Languages: English, Hindi, French, Tamil | **Interests:** Quizzing, Puzzles, Linguistics, Art History