Shubhankar Agrawal

Curiosity-driven technologist, passionate about building with data and solving impactful challenges.

shubhankar.a31@gmail.com | +65 9446 3174 | shubhankaragrawal.work

Experience

Data Scientist, OCBC Bank – Singapore — Jan 2023 – Present

- Developed recommendation systems for real-time personalization with distributed frameworks generating a 3x uplift in conversions across marketing campaigns and a $2 million revenue increase.
- Modernized investment advisory creating a Large Language Model (LLM) agent pipeline using LangChain with a RAG-powered text summarization tool, multithreaded to analyse 2000+ research documents across financial assets.
- Led a team to engineer a standardized Python Machine Learning utilities framework for the AI Lab, integrating big data, feature engineering and modelling libraries with scalable I/O, accelerating development timelines by 50%.
- Built solutions to serve models using Flask and modules for model monitoring, back-testing and A/B testing.
- Implemented Forex models: identifying optimal trades for business banking and automated hedging for profitability.

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

- Delivered new features and enhancements as a server-side developer for a suite of advisor CRM applications, utilizing asynchronous (Reactive) Java, SpringBoot, Kafka and the Elastic stack in biweekly agile sprints.
- Streamlined technical support creating an innovative NLP solution with an analytics dashboard, to auto-reconcile data discrepancies, saving 10 hours of manual intervention weekly increasing operational efficiency.
- Won prizes at internal hackathons and, as an Ignite APAC ML Community Lead organized technical sharing sessions.
- Built a Capture the Flag for 100+ technologists using Kubernetes on Amazon Web Services (AWS) cloud platforms.

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

- Improved marketing analytics with asset management fund projections applying time series forecasting models.
- Boosted global application uptime by 20%, with a predictive autoscaling mechanism across AWS deployments.

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

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

Projects

Smart Segment	Optimization based customer segmentation to maximize revenue	pypi.org/project/smart-segment/
HypoRS	Hypothesis testing library with Polars for statistical tests	crates.io/crates/hypors/
Options Pricing	Rust toolkit for Options Pricing and Greeks calculations	github.com/astronights/options-rusty
A4 Trading	Automated trading system to manage a BTC portfolio on tick data	github.com/astronights/A4-Trading
1 Pixel Attacks	Adversarial image generation for computer vision neural networks	arxiv.org/abs/2205.02116
InstaMark LLM	Media captions with Generative AI to boost engagement & marketing	github.com/astronights/insta-llm
Cryptle	Cryptic Crossword built with MongoDB, 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 (Awards: Postgraduate AI Scholarship)

University of Hong Kong – Bachelor of Engineering [Computer Science] — Sep 2016 - Jun 2020
GPA: 3.72 / 4.30 (Awards: First Class Honours, Dean's Honour List)
Minors: Finance, French

Skills

Data Science: Time Series Forecasting, Natural Language Processing, Deep Learning, A/B Testing, Data Storytelling
Big Data & ML: Spark, Hive, Hadoop, Kafka, PostgreSQL, Elasticsearch, NumPy, Pandas, scikit-learn, PyTorch, Power BI
Programming Languages: Python, R, SQL, JavaScript, Java, Rust | **Tools:** Git, Linux, AWS, Docker, Jupyter, Excel
Languages: English, Hindi, French, Tamil | **Interests:** Quizzing, Puzzles, Ukulele, Art History