

SHUBHANKAR AGRAWAL

DATA SCIENTIST

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One North, Singapore

EXPERIENCE

OCBC, Singapore

Data Scientist, Monetization

Jan 2023 - Present

- Implemented propensity models driving credit and treasury product adoption with a 3x uplift across marketing campaigns and an average increase of \$5 million in annual revenue for the bank.
- Enhanced customer retention using LLMs to score surveys and identify pertinent product use cases.
- Led a team to develop a standardized ML framework optimizing the AI Lab data and model pipelines.

Data Science Intern, Compliance

May 2022 – Jul 2022

- Improved risk assessment by building a Proof-of-Concept model to quantify risk in customer networks.
- Optimised and back tested an in-house fraud detection model achieving a 5% performance increase.

JP Morgan Chase, Hong Kong

Software Engineer Analyst, Global Private Bank | Ignite ML Lead – APAC 2021

Aug 2020 – Dec 2021

- Delivered new features and enhancements as a server-side developer on a suite of investor CRM apps.
- Streamlined support diagnosis and reconciliation creating an NLP solution, saving 10 hours weekly.
- Created a CTF challenge as part of global graduate onboarding to firmwide cloud and data platforms.

Data Science Intern, Asset Management

Jun 2019 – Aug 2019

- Applied time series statistical methods to forecast fund flow enabling projections for digital marketing.
- Boosted global application uptime by 20%, building a classification-based instance autoscaling system.

CryptAM Funds, Hong Kong

Part Time Quantitative Developer

Feb 2018 – Jun 2018

- Explored and implemented mathematical models for cryptocurrency price evaluation in trade analysis.
 - Automated the daily pipeline to update portfolio allocation, expediting the process saving 30 minutes.
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EDUCATION

Masters of Computing (Artificial Intelligence)

National University of Singapore, Singapore

Jan 2022 – Jan 2023

CAP: 4.65 / 5.0

Honours: OCBC AI Scholarship

Bachelors of Engineering [Major: Computer Science | Minor: Finance, French]

The University of Hong Kong, Hong Kong

Sep 2016 - Jun 2020

CGPA: 3.72 / 4.30

Honours: Dean's Honour List, HKU Foundation Scholarship, HKSAR Reaching Out Award

Teaching Assistant: Programming Technologies and Tools, Computing Programming I

Semester Exchange: Nanyang Technological University, Singapore.

Overseas Language Immersion Course: Lyon Catholic University, France [Legion D'Honneur Award]

Higher Secondary Certificate

A.M.M Matriculation Higher Secondary School, Chennai, India

May 2016

Score: 98.4%

Honours: Best Outgoing Student 2016 | Student Council Executive 2015-2016 | School Editorial Board 2015

PROJECTS

Q-Wordle

https://github.com/astronights/q_wordle

Designed and implemented a reinforcement learning agent to learn to play the game of Wordle. Achieved a learning behaviour mimicking human, with a success rate of 80% over 20000 trials.

Optimizing One Pixel Black Box Attacks

<https://arxiv.org/pdf/2205.02116.pdf>

Performed research to optimize the generation of adversarial images targeting state-of-the-art DNNs. Reduced the average number of network calls combining simulated annealing and StrAttack.

Gadong (FOSS Asia Open Science Prize 2019)

<https://devpost.com/software/fossasia>

Ideated and created a web application providing a crowdsourced dictionary for indigenous languages. Utilized the MERN stack to develop, augmenting semantics with phonetic and visual elements.

A4 Paper Trading

https://github.com/astronights/A4_Paper_Trading

Developed an automated bot with a self-learning multi-agent strategy to manage a BTC portfolio. Leveraged technical and fundamental indicators as agents to ensure optimal trading decisions.

Final Year Project: Financial Data Forecaster

<https://i.cs.hku.hk/fyp/2019/fyp19020/>

Built a forecaster that predicts cross-domain index and forex price movement across 17 APAC countries. Enhanced accuracy with 10-year historical prices and sentiment of geo-political tags on social media.

Flow Monster (JPMC Hackathon Runner Up)

Developed trading strategies for optimal RFQ price matching and trading on the dealer market. Engineered algorithms to adjust orders prioritizing risk, PnL, activity, and generating post trade reports.

TECHNOLOGY SKILLS

- ◆ **Data Science**
 - Machine Learning
 - Statistical Analysis
 - Natural Language Processing
 - Distributed (PySpark)
 - Deep Learning (PyTorch)
- ◆ **Programming Languages**
 - Python
 - R
 - Typescript
 - Java
- ◆ **Database**
 - SQL
 - Hadoop
 - MongoDB
 - ElasticSearch

LANGUAGES

- ◆ English
- ◆ Hindi
- ◆ French
- ◆ Tamil
- ◆ Latin

EXTRA-CURRICULARS

Blue Sky Sustainability Engineer Lead
UNIVERSITY OF HONG KONG

Tianjin Interflow Program (Arduino Robotics)
TIANJIN UNIVERSITY

Dreamcatchers Entrepreneurship Academy
UNIVERSITY OF HONG KONG

Leadership Development Program
OSCAR M LOPEZ CENTER, MANILA

VOLUNTEER EXPERIENCE

Graduate Mentorship Program
NATIONAL UNIVERSITY OF SINGAPORE

Residential College Organic Farming
UNIVERSITY OF HONG KONG

Force for Good – Branches of Hope
JP MORGAN CHASE

Domestic Workers Empowerment Program
UNIVERSITY OF HONG KONG

HOBBIES & INTERESTS

- ◆ Trivia and quizzing
- ◆ Linguistics
- ◆ Art History
- ◆ Chess and badminton
- ◆ Ukulele

TEST SCORES

GRE: 331/340 (Writing: 5.5 / 6.0)