Jonathan Wang

DATA AND SOFTWARE ENGINEER · DATA SCIENTIST

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Experience

Marshall Wace — *London, United Kingdom*
DATA ENGINEER — *Apr. 2024 - Present*
- To be filled

Smarkets — *London, United Kingdom*
DATA ENGINEER & SCIENTIST — *Sep. 2022 - Apr. 2024*
- Developed an industry-leading recommendation engine. Processed user activity data in an implicit matrix factorisation model; hyperparameter tuning was done using a custom metric suite. A/B testing revealed a **40% increase in engagement compared to unpersonalised events.**
- Implemented an asynchronous Python job using Kafka which loaded archived S3 files without severe I/O bottlenecking for trading backtesting. New system **reduced processing time for terabytes of CSV data to 12 minutes per day of data, down from 2 hours previously.**
- Worked closely with internal DevOps team to migrate Rust and Nix pricing engine data systems from outdated infrastructure to a unified architecture. **Reduced the engineering maintenance effort by 50% due to unified code architecture.**

HomeX — *Cambridge, United Kingdom*
APPLIED DATA SCIENCE INTERN — *Jun. 2021 - Sep. 2021*
- Built a backend API using Python's FastAPI serving a regression model to 5 other internal services.
- Built a front-end BI data visualisation dashboard using TypeScript and React with interactive street maps and tables.
- Deployed these services using Docker, Kubernetes and Terraform with data ingestion from AWS S3 and Snowflake.

Education

University of Cambridge — *Cambridge, United Kingdom*
M.ENG (HONS), INFORMATION AND COMPUTER ENGINEERING & BIOENGINEERING — *Oct. 2018 - Jun. 2022*
- Graduated **Honours with Distinction** (1st Class thesis & 1st Class exam results).
- First Year: **74%** ; Second Year: Ungraded (As a result of CoVid-19) ; Third Year: **71%** ; Fourth Year: **72.5%**.
- **Masters Thesis**: Using natural language processing and machine learning to train a counter speech dialogue system that can respond intuitively to hate speech. Introduced a novel unsupervised evaluation metric using neural networks with associated custom data sets. Fine-tuning and architectural modification of cutting edge dialogue models such as Blender Bot & GPT-3 to achieve state-of-the-art performance. Familiarity with Linux command line tools to schedule jobs on HPC supercomputing clusters.

Westlake Boys' High School — *Auckland, New Zealand*
5A* AT A LEVEL — *Feb. 2013 - Dec. 2017*

Skills

Programming — Python, Rust, REST API, Linux Command Line, Git
Data — Pandas, SQL, AWS S3, Redshift, BigQuery, PostgreSQL, Redis, Kafka
DevOps — AWS, GCP, Docker, Kubernetes, CI/CD, Grafana, ElasticSearch/Kibana

Projects

Conference for Truth and Trust Online — *Boston, Massachusetts*
FEATURED SPEAKER — *Oct. 2022*
- Gave an on-stage presentation to a 100+ person audience regarding the novel technical contributions and NLP research based on my Master's thesis. (https://truthandtrustonline.com/)

Cambridge University Robotics Society — *Cambridge, United Kingdom*
CORE MEMBER — *Nov. 2018 - Jun. 2021*
- Designed an optimisation strategy using image pre-processing to reduce live computational times by over 70%.

Honors & Awards

2021	**College Prize for Engineering**, Robinson College	*Cambridge, UK*
2019&20	**College Exhibition Awards for Academic Achievement**, Robinson College	*Cambridge, UK*
2017	**New Zealand Outstanding Scholars - Top 50 in Country**, NZQA	*Auckland, NZ*