

Jonathan Wang

INFORMATION AND SOFTWARE ENGINEER · DATA SCIENTIST · UNIVERSITY OF CAMBRIDGE

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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

HIGH SCHOOL

Feb. 2013 - Dec. 2017

- **A Levels:** Mathematics (A*), Physics (A*), Chemistry (A*), Biology (A*), English Literature (A*)

Skills

Programming Python, C++, RESTful API, Unix, Git, LaTeX

DevOps AWS, GCP, Docker, Kubernetes, Terraform, Jenkins

Data SQL, AWS Redshift, BigQuery, PostgreSQL, Snowflake

Front-end HTML5, CSS, React.js, JavaScript, TypeScript

Experience

Smarmets

London, United Kingdom

SOFTWARE ENGINEER

Sep. 2022 - Present

- Developed an ML clustering pipeline using Latent Dirichlet Allocation which aggregated review data pulled from Google Play Store and iOS App Store APIs. Reviews were automatically binned into topics which reduced CX team's time spent reading reviews by 2 hours a week.
- Worked closely with marketing to improve acquisition strategy which relied on quantifying user behaviour from multiple data sources. Created user event triggers which paid affiliates based on sustained activity rather than acquisition. Saved over £30,000 a month in affiliate costs.
- Trained a simple regression model allowing us to predict costs associated with customer activity with approximately 95% R2 score.

HomeX

Cambridge, United Kingdom

APPLIED DATA SCIENCE INTERN

Jun. 2021 - Sep. 2021

- Built a backend API using Python FastAPI and data modelling/machine learning techniques to generate models of statistics about homes. API was exposed to many internal components to be used throughout the organisation.
- Built a front-end data visualisation dashboard using TypeScript and React with interactive street maps and tables.
- Deployed all these services from scratch using a pipeline involving Docker, Kubernetes and Terraform to generate infrastructure allowing data ingestion from AWS S3 and Snowflake and data serving via Kubernetes pods to a dedicated domain. CircleCI to allow for CI/CD.

Extracurricular Activity and Projects

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 100%.
- Collaborated on a behavioural system for path planning system using trajectory planning and Bezier curves in C++.

Machine Learning Self Project

2020

- Built a fully convolutional neural network for image segmentation in PyTorch with Python, network could achieve 80%+ accuracy on minimal training data. Code could segment the image into man made buildings and natural landscapes.

Honors & Awards

2021 **College Prize for Engineering**, Robinson College

Cambridge, UK

2019&20 **College Exhibition Awards for Academic Achievement**, Robinson College

Cambridge, UK

2017 **Proxime Accessit**, Westlake Boys High School

Auckland, NZ

2017 **New Zealand Outstanding Scholars (1 of 50)**, NZQA

Auckland, NZ

2016 **NZ International Chemistry and Biology Olympiad Training Camps**, Chemistry and Biology Olympiads

Auckland, NZ