

I am a well rounded software developer with a focus on software for data science and machine learning. I have experience working on ML projects in different industries (Manufacturing, Insurance). I am active in the open source software community, with contributions to numerous popular data science and numerical libraries, most significantly **ExaFMM**, **Traits**, **Envisage**, **Chaco**, **Numba**, **Scipy**, **Scikit-Learn** and many more, including time being mentored by Python core developers. I have solid experience with the Python ML Stack (**Pandas**, **SciKit-x**, **Keras**, **Tensorflow**, **Dask**, **Numba**), and have a good mathematical background in the principles of machine learning through my education (**DNNs**, **Un/Supervised Learning**, **Image Processing**, **Vector Calculus**, **Computational Statistics**). I am familiar with modern devops principles and software engineering best practices.

EDUCATION

University College London

London, UK

MSc+PhD Mathematics & Scientific Computing (MSc with Distinction)

September 2018 - September 2023

Focus: My area of research is **software systems** for large scale **simulation** in **Rust** and **Python**. I write software to take advantage of distributed and heterogeneous hardware (mixed CPU/GPU) for scientific and engineering problems.

Durham University

Durham, UK

Master of Physics in Physics (Upper Second Class Honours)

October 2013 - May 2017

Focus: Theoretical physics, and applied computation.

TECHNOLOGIES

Languages: Python (8 years), Matlab (3 years), Rust (2 years), C++/C , JavaScript (1 year), Miranda, Haskell, Go (< 1 year)

Tools: **Data Science** (Pandas, Numpy, SciPy, SKLearn, Numba) (5 years), **Distributed Computing** (MPI, OpenMP, Dask) (3 years), **Heterogeneous Computing** (CUDA, OpenCL) (3 years), **Databases** (Postgres, Elasticsearch, MongoDB) (2 years),

DevOps (Docker, Singularity, TravisCI) (2 years), **Web Dev** (Flask, FastAPI, AWS, GCP) (1 year), **Deep Learning** (Tensorflow, Keras) (<1 year), **Frontend** (React, React-Native) (<1year)

PROFESSIONAL EXPERIENCE

The majority of my professional experience has been in startups, in product, software and research roles. Startups have taught me how to deal with extreme ambiguity, learn quickly, execute projects with limited resources, form productive teams, and effectively engage with stakeholders.

Faith Online

London, UK

Product Lead

April 2020-September 2020

- I co-developed and launched a live-streaming application for religious organisations to deliver sermons. We used **TypeScript**, **React** and **Twilio** for development, and **AWS** with **Docker** for deployment.
- I was responsible for the first iteration of the product's design, hiring out an initial team, and coordinating deployment to customers, scaling to 100 religious organisations from MVP in just 5 weeks.

Enthought

Cambridge, UK

Software Engineer, Intern

April 2019-September 2019

- I developed **computer vision software** for a client in the semiconductor industry to automate manufacturing defect detection using **Python** with **SciKit-Image**, **Keras** and **PyQT** for development, and **TravisCI** and **Docker** for the build environment.
- I contributed to popular Python open source projects (**Traits**, **Envisage**, **Chaco**), under the guidance of core maintainers of **CPython**.

Cytora

London, UK

Data Analyst & Software Engineer

September 2017-December 2018

- I took ownership of the development of mission critical projects, operating under ambiguity, and changing requirements.
- I lead a team of three to develop greenfield **natural language processing software**, to process data from unstructured and structured source data, using **Python** with **Flask**, **ElasticSearch**, **PostgreSQL**, and **CircleCI**, **Docker** and **GCP** for deployment.

Cambridge Quantum

Cambridge, UK

Research Intern

June 2017-September 2017

- I was a summer researcher studying algorithms for the next generation of quantum computers. I collaborated with researchers from Cambridge University and Google.