

# Theo Windebank

Bow, London

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## Education

### The University of Oxford

St. Catherine's College

MENG ENGINEERING SCIENCE - 2.I., (68)

Sep. 2013 - Jun. 2017

- Awarded the Gibb's prize for best third year team project. Designed hardware, a distributed computing facility, and set of computational processes that make it possible to scan, process, upload, and save an entire human brain for possible future reanimation. This fine-tuned my team working skills and broadened my data analysis skill-set.
- Co-authored a paper relating to the findings of my fourth year project, 'Mosquito Detection with Neural Networks: The Buzz of Deep Learning'.
- Key Modules: Machine Vision & Robotics · Machine Learning · Medical Imaging & Informatics · Probability, Systems & Perturbation Methods · Nonlinear & Predictive Control · Software Engineering · Information Engineering · Biomedical Modelling & Monitoring.

## Experience

### Monzo Bank

London, UK

DATA ENGINEER

Apr. 2019 - Current

- data engineering function at monzo like an internal facing product team, the customers are the people developing data models and doing analyses for monzo have built an understanding of the importance of good platforms and tooling requires a deep understanding of how to model data in a way that scales with a rapidly growing company
- In my first three months at Monzo, I worked on migrating from a hand rolled python + sql solution to dbt made lots of decisions of how we use dbt at monzo identified as a high performer within my probation period and promoted 3 months in
- Building platforms to scale out Monzo's data function.
- tech: python, dbt, Airflow, Go
- projects: dbt migration, sensitive data, airflow optimisation, data action hub

### The BBC

London, UK

DATA ENGINEER

Nov. 2017 - Apr. 2019

- Having joined BBC Datalab in its early formation, I worked with the team to develop organisation-wide information sharing and federation systems, using structured data, semantics, and machine learning.
- As an 'experimental' team, we worked with technologies and platforms new to the BBC - discovering how best technologies such as Kubernetes, Docker, and Istio can be employed on Google Cloud Platform to maximise the value for the audiences.
- Cross-functionality in the team has me deep diving into many areas, such as provisioning and managing our Kubernetes clusters using Terraform, implementing vector similarity scoring for our collaborative filtering model in Elasticsearch, developing and adding features to an API supporting a live app, and writing a library for distributed logging and tracing across our microservices.
- I talked at PyData London 2018 about technologies the team are working with. This proved an invaluable experience, which, among other things, emphasised the importance of the communities that surround the open source tools we use daily. In addition, I worked on communications for the team, determining how we best disseminate knowledge to the wider BBC and our audiences.

### Cue Sense Ltd.

London, UK

SOFTWARE ENGINEER

Jun. 2017 - Nov. 2017

- Built a code base to help visually impaired people to interpret non-verbal cues, utilising computer vision and machine learning.
- Constructed the entire image processing, image classification, and sound feedback pipeline for the software prototype, using Python 3.6 and a multitude of advanced data science techniques. This built upon my experience of creating unique machine learning pipelines for novel applications.
- Designed around challenging physical and economical constraints, helping expand my knowledge and practical experience in designing software architecture and core algorithms for market-facing products.
- Pitched the product to potential investors, heightening my awareness and understanding of the marketing and business aspects to developing an innovative product.

### Machine Learning Research Group

University of Oxford

SOFTWARE DEVELOPER INTERN

Jul. 2016 - Sep. 2016

- Used a variety of machine learning techniques during my internship within the Oxford-Man Institute of Quantitative Finance, working on a project to detect mosquito presence, species, and gender from audio recordings.
- Developed a fully-featured python package to act as a test-bed for detection algorithms, aimed for a public open source release. This has improved my skills in coding for a long-term project where the code will be further used and worked on by others.
- Planned and carried out a series of microphone tests, resulting in a large batch of microphones being purchased and used to capture further biological recordings.
- Built upon this work within my fourth year university project, receiving a mark of 83 on final grading.
- Feedback from supervisors placed me in the top 5% of students who have worked with the Oxford-Man institute, confirming my ability to carry out high value work in this sector.

## Skills

- Python · Machine Learning · Kubernetes · Google Cloud Platform · Microservices · gRPC · Semantic Web · Resource Description Framework (RDF) · API Development · SPARQL · ElasticSearch · Conference Speaking · Web Development · Operating Systems · Matlab