

Summary

I love building things, especially ML-based products: taking them all the way from ideation to data collection, training, validation, and productionisation. I'm happiest working on ambitious projects aiming to improve millions of people's lives.

Thought Saver

CTO (Oct 2022-present)

- Building a product utilizing spaced repetition for internalising self-help ideas
- Released mobile apps on iOS and Android (Capacitor)
- Rapid implementation of multiple features, including social decks, UI overhaul, and experimental pivot towards a routine/habit building app
- Rebuilt user tracking/metrics solution. Don't trust GA!

Consulting

- [Faculty](#) (July-Oct 2022) - Senior Machine Learning Engineer integrating and deploying multiple models for a robotic arm for nuclear waste
- [Limbic](#) (June 2022) - built tests and ML CI/CD pipelines for mental health triage product

Reti.Health

Co-Founder/CTO (Dec 2020-April 2022)

- Building cardiovascular disease screening at optometrists using retinal images
- Secured >£100k seed funding from Entrepreneur First and angels, developed partnership with optometry group of 200 stores
- Sourced multiple datasets, including one of 180k retinal photos linked to NHS health records
- Trained models to predict heart attack, stroke and hypertension, combining CNNs and survival analysis. Results beat Google Health's on the same dataset
- Integrated models into web and desktop apps, deployed and tested them with optometrists

Opteo

Machine Learning Engineer (Dec 2018-Sep 2020)

- Built an NLP Google Search keywords suggestion tool. Became top 3 (out of ~30) most used company feature
- Statistical analysis of company impact on key client metrics, public dissemination as blog posts
- Data warehouse and BI platform setup

Visii

Head of Research (Apr 2016-Mar 2020)
Computational Neuroscientist (Jan 2015-Apr 2016)

- Built R&D platform for prototyping and testing algorithms for visual search. Increased API response times 10x, allowed far faster development, still serves millions of requests/month today

- Built an interactive human-in-the-loop image classifier, optimised image feature extraction with latest CNNs, built and refined multi-headed networks to optimise for client needs

University College London

PhD Candidate Cognitive Neuroscience & RA (2012-2014)

- Electrical brain stimulation and fMRI experiments using pneumatic robotic manipulanda
- Developed Dextrickery, an iPad app for crowdsourcing motor learning data collection
- Left before completing to find more applied work

University of Groningen

Research MSc in Cognitive Neuroscience - Cum Laude

- Minor thesis on brain-computer interfaces
- Major thesis on accelerating motor learning with electrical brain stimulation

University of Leeds

Cognitive Science - 1st Class Honours

- Thesis: Reconstructing topological maps from hippocampal place cells in the rat

Miscellaneous

- On my website I have browser-playable Java [games](#) I've built, [a cool background designer](#), and some [blog posts](#)
- Starship Robotics Self Driving Animal Rescue Challenge 1st prize winner (December 2018)
- I regularly make pretty great sourdough pizza and run about 30k a week to mitigate the damage
- Interested in effective altruism and maximising the positive impact my career has on the world

Sample Tech

ML: PyTorch (Lightning), Scikit-Learn, Tensorflow

Application: Tornado, Vue, React, Electron, SQLite, MySQL

Cloud: AWS (EC2, Athena), Google Cloud (BigQuery, TPUs)

Sample Publications

Ipsilateral finger representations in the sensorimotor cortex are driven by active movement processes, not passive sensory input (Berlot et al, 2019, Journal of Neurophysiology)

Effects of different electrical brain stimulation protocols on subcomponents of motor skill learning. (Prichard et al, 2014, Brain Stimulation)