

I am a motivated and enthusiastic 4th-year Information Engineering student with ambitions for a career in AI and Machine Learning. I am increasingly fascinated by the power and possibilities of programming and its applications. With a passion for taking on new challenges, I am always striving to better myself.

Education

2018-2022: Masters in Information Engineering, Christ's College, University of Cambridge

Fourth-year module choice – Deep learning and structured data, Computer vision, Probabilistic machine learning, Practical Optimisation, Computational statistics and machine learning, Strategic management, Software engineering & design, Electricity and environment
Masters Project title – Data of Your Heart: Screening for Atrial Fibrillation (Group F: Machine Learning)

2016-2018: Pate's Grammar School, Cheltenham, UK

A-level results: Mathematics (A*), Further Mathematics (A*), Physics (A*)

Work Experience

2021 – Research Intern at Oxehealth, UK

A 12-week internship including 3 research projects alongside various tasks. In the first project, I found a systematic method to increase the variability of a dataset for use in training/testing the Deep Learning Object Detection (OD) models, using the perceptual hash algorithm to remove similar images. This enabled a user input of reduction scale. The second project was to generate the metadata for a legacy dataset, which I tackled with Python scripts. The last project was to develop a method for classifying different “rooms” in an image dataset using an Unsupervised Learning (Clustering) method. The prototype method, which used the VGG16 algorithm for feature detection followed by PCA for dimensionality reduction, proved to have potential for widespread application, and the work will be continued at Oxehealth. Alongside these projects, the internship included classes on topics such as “Command-Line Productivity” which helped develop my knowledge of Linux, Anaconda, TMUX, Docker and Git in a collaborative environment. I also assisted in the annotation of datasets for the OD models, made multiple presentations showcasing the work I had done to the “Algos” team, and acted as compere for companywide presentations.

2020 – Technical Consultant at Anidium, UK

A 6-week contract to develop ECG segmentation algorithms using TensorFlow. Specifically, in preprocessing data, building and training a deep learning model, and inferring segmentation of new data with visualization for reference. I also worked collaboratively with other developers to implement the algorithms into the company's Python module, using Git. The model I built and trained achieved 98% validation accuracy and performed exceptionally well on very noisy data. Furthermore, I built a widget that enabled the interactive labelling of data, for use in training. This work is now continuing through my MEng project.

Since Jun. 2019 – Data Analyst Intern then Contractor at Future Advanced Manufacture, UK

I completed a 6-week internship based on an open-ended project of producing an Inspection Report for a manufactured part. This involved processing over 30k data points through different criteria and plotting the results. I created a program that automated the entire process in Python using Pandas, NumPy, Matplotlib, and LaTeX to automate the report writing. The entire process was reduced from a few weeks using Excel/Word, to half an hour using my program. This generated IP for Future. After my internship, Future now contracts me to create their Inspection Reports, to their requirements.

May. 2020 – Co-Founder and Manager of BisleyCamping.co.uk

While collaborating with a local farmer, we built a carbon-neutral campsite out of entirely reused, recycled, or on the farm sourced materials, which was fully booked in our first season of opening. I built and maintain our website, manage the accounts and payments, and handle marketing and communication with our customers, who travel as far as London and Cardiff.

Interests

- Founder and past Vice-President of Christ's College Engineering Society <https://www.christs.engineering>
- I ran a Coronavirus data analysis newsletter, using Python, for a small group of local professionals during lockdown.
- Watersports, specifically Surfing and Kitesurfing. I was the Cambridge University Surf Society President, and now the social secretary.
- Football, for the College 1st team, and I was Social Secretary of the club last year.
- Sailing and Paragliding, I have my RYA Day Skipper and BHPA Elementary Pilot qualifications.
- Current affairs, I enjoy reading The Economist, as well as listening to their podcasts.
- For 18 months I volunteered for the Duckworth Trust, Worcester, an Environment Charity.

References

- Dr Elena Punskeya. CTO & Co-Founder at Anidium, UK. elena@anidium.com
- Sean Taylor, Operations Director at Future Advanced Manufacture, UK. sean.taylor@futuream.com
- Luke Tonin, Data and Artificial Intelligence Lead at Oxehealth, UK. luke.tonin@oxehealth.com