

Andreas D Campbell

Email: andreasdcampbell@gmail.com

LinkedIn: <https://www.linkedin.com/in/andreas-campbell/>

GitHub: <https://github.com/ad2502/>

Mobile: +44 7305772533

EXPERIENCE

Technology Associate, Morgan Stanley, London, England

July 2023 – PRESENT

- Developing and maintaining a realtime risk engine used to calculate risk and PnL for FX products in emerging markets (3 codebases).
- Constant interaction with remote Linux hosts/clusters via SSH, requiring a deep understanding of CLI tools for effective data retrieval and manipulation.
- Exposure to a variety of data streams such as Kafka, CPS and in-house persistent layers.
- Development of monitoring tools to provide real time updates of server memory and CPU usage, as well as monitoring financial curves to ensure our models are ticking with the market.
- Developing in C++, Python, Bash and Perl.

Software Engineering Intern, Amazon Web Services, Cagliari, Italy

June 2022 – Sep 2022

- Part of a Kanban team working on a high-performance remote display protocol that provides customers with a secure way to deliver remote desktops and application streaming from any cloud or data center to any device with AWS.
- Implementing MacOS and Linux file system redirection to provide customers with the ability to mirror their local file system to their remote desktop. Utilising multiple low level POSIX operations in C. As well as C, experience with Rust and Protobuf for data serialisation.

Technology Placement, Morgan Stanley, London, England

June 2021 – June 2022

- Part of a Kanban team building a web application (Java, Spring, Angular, Typescript and MongoDB) with the goal of improving client engagement through shared ideas. The application utilises APIs to pull in the latest financial data for all our clients. Our model detects trends, anomalies, and news before sending it to the appropriate banker. The web application is now live within the bank.
- Scrum master for two weeks where I led every daily standup and ran the retrospective at the end of the sprint.
- As part of my second rotation, I joined a new team where I used ETL tools to transform all options and futures data from the EUREX (European Exchange).
- Third in the London AI team competition where we were given the challenge of writing an algorithm that could play Ultimate Tic Tac Toe. I programmed the heuristics and the minimax algorithm we decided to use (Python).

Founder, BugHub, Newcastle, England

Sep 2019 – Sep 2020

- Created a company focusing on free website security auditing for new companies that don't have the luxury of a tech team.
- I conducted security audits, finding vulnerabilities in client's websites which were then outlined in the 'BugHub report'.
- Completed audits for three companies in the UK.

Researcher, BugCrowd, Remote

Jan 2017 – Sep 2019

- Identifying security vulnerabilities in partnered companies.
- Successful bugs identified and reported include:
 - Confidential data exposure for Uber.
 - Unauthorised redirection for SkyScanner.
 - Unauthorised redirection for Under Armour.

Research Assistant, Lausanne Business Solutions, Remote

July 2019 – Oct 2019

- Part of a team which generated data for an AI chatbot.
- Experience understanding machine learning biases and how CNN's process text/speech with reinforcement learning.
- This involved recording hours of conversations on various topics and transcribing them so that a chatbot can learn from the data.

EDUCATION

Newcastle University, Newcastle, England

Sep 2019 – June 2023

1:1 First Class in BSc Computer Science with Industrial Placement

Projects include:

- Dissertation project titled "Can mimicking human experiences, emotions and writing style lead to a more impactful experience with AI?". Using a variety of techniques including, Gaussian distributions, error injection and real UK statistics as well as attempting to quantify emotions and their impact on the individuals personality. The results showed that 75.3% of those surveyed, incorrectly labeled my models outputs as written by a real human being.
- Building a Java Lottery Web Application with an Apache Tomcat Server and MySQL database focused on security. I implemented password hashing, encryption and created an SQL injection filter.
- C project to demonstrate different approaches to maintaining the integrity of an inter-process communication (IPC) application.

- Built in C, a Reliable File Transfer (RTF) protocol that works on top of UDP and guarantees reliable delivery of a file between a client and a server.
- Machine Learning project in Python which categorises banking expenses using a multinomial naïve bayes model. The program returned a graph with the categorised results. Scikit-learn, pandas and matplotlib were the most used libraries in this project.
- Deep Learning convolutional neural network image classification project where I conducted a wide range of experiments in order to maximise my CNN's performance. The dataset was the CIFAR-10 dataset, and the main libraries were Tensorflow and Keras.
- A program that extracts gene data from an online source and analyses the protein sequences to produce statistical graphs (pandas in Python).

George Heriot's School, Edinburgh, Scotland

Aug 2012 – July 2019

Advance Higher: Mathematics (B), Computer Science (C)

Higher: Mathematics (A), English (A), German (A), Computer Science (B), Physics (C)

SKILLS

Computer Languages: C++, Python, Java, C, Bash, Perl, Typescript, Rust, HTML, CSS, SQL

Familiar Technologies: CPS, Kafka, Train, pandas, Keras, TensorFlow, Matplotlib, MySQL, Linux CLI, Git, Virtual Environments, Django Framework, Spring, MongoDB, Apache Servers, Talend, Angular, Jira, Jenkins, Protobuf, AWS (EC2)

INTERESTS

Team Leader, Refuge Network International, London, England

September 2021 – June 2022

- Leading walking groups around Victoria handing out food parcels to the homeless.
- Operating the clothes and toiletries stand at our weekly food bank.
- Photography during the walking groups for the charity's social media.

Volunteer, Grassmarket Community Project, Edinburgh, Scotland

May 2018 – June 2019

- Working alongside homeless people with mental illnesses.
- Twice a week I was involved with group activities such as teaching IT classes, walking groups and working in the cafe.

Sports: Boxing / Ice Hockey