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## EDUCATION

**Bsc (Hons) Computer Science (First Class), *The University Of Edinburgh***

**2016 — 2020**

**Notable Courses:** Software Architecture, Process and Management; Software Testing; Extreme Computing, Distributed Computing, User Interface Design

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## WORK EXPERIENCE

**Software Engineer**

**Sep 2020 — Present**

*Corero Network Security*

*Edinburgh, Scotland*

- Worked as part of an Agile team creating a DDoS protection solution, with a focus on the user interface and analytics.
- Developed a new real-time data subscription system using Redux which takes data from network monitoring devices and transforms it into a user friendly format.
- Created and improved a dashboard application using React and Typescript, responsibilities included creating data visualisations, tables and charts; building developer utilities and optimising existing features.
- Built Splunk dashboards to help users quickly understand complex data and extended functionality by creating custom Python endpoints.

**QA Engineer**

**Sep 2019 — Mar 2020**

*Edinburgh University Hyperloop Society*

*University Of Edinburgh, Scotland*

- Contributed to a student-led project with 200 members that researched, built and tested futuristic transport solutions.
- Led a small team in creating a continuous integration system for a C++ environment to improve software quality and reliability through unit and static testing.
- Communicated across teams to gather feedback and ran sessions teaching members how to use our tools and develop effectively using test driven development

**Engineering Intern**

**Jun 2019 — Sep 2019**

*Skyscanner*

*Edinburgh, Scotland*

- Worked as part of a DevOps team responsible for the homepage and internal libraries, working in React and NodeJS.
- Worked with designers and product managers to develop new features and improve accessibility for users, using user data to inform decisions about improvements and additional features.
- Identified and built solutions to improve the website's performance such as image lazy loading and CSS deferral which improved page load time by 500ms.
- Extended a DroneCI deployment pipeline to monitor the relative failure rate of old and new deployments to improve reliability when deploying.

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## PERSONAL PROJECTS

**Mandelbrot Maps (Browser-based Fractal Renderer)**

- Used Rust and WebAssembly to handle the high computation load of performing the millions of iterations required to render the fractal. Web workers were used to allow for parallel computation in the web client.
- Created a responsive, mobile first user experience using React.
- Created automated functionality and performance tests using Puppeteer and Selenium.

**Online Tabletop RPG Battlemat**

- Web app which allows users to interact in real-time by moving tokens and drawing on a grid for use with Tabletop games such as "Dungeons and Dragons".
- Built a robust backend using Typescript and Web Sockets to synchronise user actions. Used client prediction to provide a responsive experience for each user while the server reconciles the true state.
- Built a custom game engine to render the board and tokens, handle user input and process updates from the server.

**Browser Engine**

- Personal project to create a basic browser engine using C++.
- Built parsing HTML and CSS, calculating layout dimensions by following W3C guidelines and rendering.
- Developed a deeper understanding of the mechanics behind a web page, giving me the knowledge to create more performant pages.