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Education

- **University of Cambridge**, Computer Science (2013–2017)
 - **MEng** (*In Progress*)
 - **BA Hons.** (*First Class*)

Research and Academic Projects

- **Static Analysis with TESLA** Master's Research Project
November 2016–June 2017 | University of Cambridge
 - TESLA is a framework for dynamic instrumentation of C programs using temporal logic assertions. As part of my Master's degree, I am conducting research into how static analysis can be used to extend the capabilities of this system.
 - The primary research goal is to identify a useful subset of temporal logic assertions that can be proved at compile time, and to use this analysis to optimise instrumentation using TESLA.
- **An Implementation of the π -Calculus** Undergraduate Final Project
October 2015–May 2016 | University of Cambridge
 - In my final undergraduate year, my major project and dissertation involved the development of a programming language and runtime environment based on the π -Calculus process algebra.
 - The project included a bytecode compiler for a language of my own design, as well as a full scheduling virtual machine to execute the bytecode. Both the compiler and virtual machine were written in Scala.
 - In undertaking this project I gained strong experience in the theory and practice of compiler implementation, as well as an understanding of the problems faced when building concurrent systems.
 - The final project implementation and associated dissertation received a first-class grade.

Employment

- **Core Payments Intern** GoCardless
June–September 2016 | London, UK
 - While at GoCardless I worked with the company's core payments team to improve and develop their banking infrastructure and processes.
 - Projects I was responsible for included adding new features to internal risk and compliance tools, upgrading legacy code to allow for infrastructure changes, and designing auditing methods for changes to payment processes.

- I also spent time as the team’s first responder, dealing with problems and queries about banking processes from across the company.
- **Mobile Presales Intern** VNC Automotive
June–September 2015 | Cambridge, UK
 - At RealVNC I was primarily responsible for prototyping an implementation of Apple’s CarPlay in-car entertainment software.
 - My role involved developing kernel drivers to support USB communication with the iPhone, as well as building the user-level CarPlay software itself.
 - I was responsible for undertaking preliminary research into how CarPlay could be integrated into the company’s existing in-car systems, as well as the development work involved in building a prototype.
- **Mobile Development Intern** University of Cambridge, Mobile Systems Group
June 2014–April 2015 | Cambridge, UK
 - I built a native iOS version of an existing Android application (*EasyM*) for collecting survey response and sensor data from users who take part in research studies.
 - As well as being of active use to researchers, my work also served to evaluate the potential of Swift and iOS as a platform for mobile sensing applications related to the work of the research group.
 - My primary work was carried out during an internship from June–September 2014, with more work being carried out part time from then until April 2015. At the end of my internship period I presented on my work to a group of academics at a research group meeting.
- **iOS Developer** PenPalWorld
July 2013–April 2015 | Remote
 - At PenPalWorld I created an iOS app for an existing social networking site with over a million users. Creating the app also involved building a custom web API to interface with the site’s existing database.
 - Throughout the project I worked closely with the owner and founder of PenPalWorld to produce a quality end product.
 - On launch my app was used by approximately 150 unique users per day, and my responsibilities were expanded to include managing user satisfaction with the product.

Other Projects

- **Webmaster** Trinity Hall June Event
October 2014–June 2015 | Cambridge, UK
 - In my second year of university I took on the role of Webmaster for the Trinity Hall June Event 2015, the largest capacity event in Cambridge University’s famous May Week (with 2000 people attending the event).
 - I was responsible for web development, as well as managing the use of the event’s ticketing software. This involved both practical and technical skills—I ran a team of 6 people on the night of the event to control admission, as well as writing custom ticket generation and distribution software.
 - The role required me to work effectively on a large team with a wide range of interests and responsibilities.