

## Experience

### Software Engineer

*Cambridge Consultants, September 2015 to present*

Cambridge Consultants are a product development and technological consultancy. As a Software Engineer in the ICE (Industrial, Consumer and Energy) department I worked on projects ranging from household devices through to defence systems.

During my time at Cambridge Consultants I worked, primarily, in embedded and web systems. One of the web projects on which I took on a product owner role, as well as development duties, was an HTML5 web app for a touch interface to showcase Cambridge Consultants' capabilities to prospective clients. I used Angular.js as a client-side MVC framework and D3.js to display graphs and charts. The integration of D3 and Angular was a particularly interesting piece of work, which required working with legacy D3 code written for an earlier iteration of the product in order to get it to play nice with Angular. As well as being shown to clients the application is displayed in the main office, so all visitors see the project.

Due to the sensitive nature of many of the clients of Cambridge Consultants, I am unable to talk in detail about the work I undertook in the embedded space. However, I can say that my embedded work ranged from developing robust and resilient drivers through to programming state machines and applications for real time operating systems. More recently alongside my engineering role I have taken on additional responsibilities around project management including soliciting requirements from clients, delegation of engineering tasks and facilitating collaboration with other teams.

### Freelance technical writer

*July 2014 to July 2015*

Alongside my final year studies I was contracted to author blog posts, write tutorials and present in informational videos by Premier Farnell, the leading electronics distributor in the UK. The content was primarily aimed at electronics hobbyists and the video series, Circuits with Charlotte, received a total of over 85,000 views on Premier Farnell's YouTube Channel.

Developing the content helped me to develop my communication skills, enabling me to discuss highly technical subjects with people of varying skill levels; from beginners through to advanced users. Each project, which consisted of a tutorial and a video, took users from the basics of electronics through to having a working system.

Projects included creating a **NFC enabled microcomputer** with a **Windows Azure ASP.NET backend** to allow people to check in using oystercards at events, and creating a bracelet of LEDs which could be given a custom colour and pattern using an android phone app.

### EAT Intern

*Airbus Operations, August 2013 - July 2014*

As part of my degree I completed an industrial placement at Airbus, the largest plane manufacturer in Europe. My internship role was to help maintain a python toolkit called EAT (Engineering Application Toolkit) which interfaced with the CAD modelling engine CATIA, which Aerospace Engineers used to design various parts of the A350 XWB. The toolkit made it easier for Aerospace Engineers to programmatically create and manipulate models without needing to use the CATIA API directly, which is written in C++ and therefore difficult to interact with for non-software engineers. Enabling easier programmatic access to CATIA reduced reliance on the rather complicated CATIA UI, which increased the number of changes which could be modelled in a given period of time.

During this time I also built and improved applications using the toolkit, varying from stress calculations to fuel systems modelling. I also supported Aerospace Engineers wanting to use the tool, trained my replacement intern at the end of the year and helped to support work experience students visiting Airbus every few weeks.

## Education

**Degree** BSc(Hons) in Computer Science with Industrial Experience at the University of Hull  
**Grade** First Class

## Awards

- Winner of the **G.B Cooke Prize for Best Final Year Project at The University of Hull**  
Recipient of the award for best final year project in a year group of 150 students, due to an average percent score of 93 for the dissertation portion of my degree.
- Winner of the **Bristol Heat of the Institute of Engineering and Technology Present Around the World Competition**  
Present Around the World is a competition for 18-25 year olds to present on a technical topic for 10 minutes. I presented a talk about improving Computing education with a particular slant towards using creative technologies to improve inclusion and interest.
- Winner of the **British Computer Society's Lovelace Colloquium, Best Second Year Poster Award**
- Winner of a travel scholarship for the **Grace Hopper Celebration of Women in Computing 2014**  
One of 425 recipients of a total applicant pool of 1,400 to receive full travel, accommodation and entry financial aid to attend the conference in **Phoenix, Arizona**, through personal merit and support of STEM education improvement in the UK.
- Winner of one of five **Millennials Scholarships** to attend the **Future of Wireless International Conference 2014**, in Cambridge, UK

## Hobbies and Interests

- **Avid musician with grade 8 in Clarinet, grade 5 in Piano and grade 3 in Saxophone.** I feel that music has greatly influenced my ability to work with others, memory skills and logical thinking. I regularly attend bands and orchestras to keep these skills sharpened and as a form of relaxation. This also influenced my *Final Year Project* during my BSc, which was a **sheet music organisation system**, in order to make it easier for classical musicians to browse their own libraries and collate it with online resources. I have since open sourced the project and spoken publicly on the subject.
- **Frequent technical blogger and event speaker.** Whilst I've attended university I have written a lot about my experiences and about projects I work on within electronics and interfacing in my free time, these can be found at my website [charlottegodley.co.uk](http://charlottegodley.co.uk). I have also had the opportunities to speak at various Raspberry Pi and educational events around the country.
- **STEM Ambassador.** I volunteer as a STEM Ambassador in order to improve computer science education. Previously I have ran workshops using wearables in order to teach programming concepts in a more creative and inclusive way, supported teachers with resources and given talks on computing education at meetups.
- **Hobbyist electronics hacker.** During my last two years at University I have found an interest in electronics, particularly using Raspberry Pi and Arduino. Projects I've done with these have ranged from I<sup>2</sup>C communication in **python** to read an **ultrasonic ranger** which plays a warning when a person is too close, to connecting a string of **addressable LEDs** to the Internet and allowing friends to adjust the colours and brightness of the lights.

*References available upon request*