

Digital Skills Role Models

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S E C U R

What does your job entail?

Simply put, I develop algorithms. These are repeatable bits of code that perform specific functions. This could be simple like importing some data, or more complex like diagnosing a problem with your heart. Lots of our code must be executed on a wearable device, so we need to be careful about how much computing power we are using. It is little nuances like this that makes it exciting.

How did you get into this line of work?

I have just submitted a PhD in Engineering, specialising in heart attack detection from the electrocardiogram (ECG). Before that, I completed a Masters (MEng) in Electronic Engineering, with a semester spent in Germany studying Mechatronic Systems. I love the idea that we can improve heart health for so many people, so this line of work is ideal.

Outline your career to date?

I am fresh out of university, but I have worked previously. I make circuit boards in my spare time, so I have been helping a search and rescue charity called Skywatch to make UAV control boards. I have also made automotive mobility circuitry, and agricultural attachments. Before that, I spent a year working as an Electronic Engineer in Seven Technologies, Lisburn, designing circuitry and programming microcontrollers,

How do you use digital skills in your role today?

I write code every day, and I love it. I am frequently jumping between windows, mac, and Linux to get something done. Being familiar with these before the job is definitely helpful, but on the job learning is good fun. I am working between an algorithm team, and those who write code for microprocessors. Having a background with Arduino microcontrollers means I am familiar with the C language. This is so helpful, even when it was just a hobby!

Did you have the opportunity to develop IT and digital skills at school or did you learn them at college, university or on the job?

All of the above. During high school, I realised that learning to code is one of the best things you can invest your time in. I purchased an Arduino microcontroller kit and started to make simple projects like flashing lights for Christmas trees. I decided to use it in my A-level technology project. I made a scrolling 24x8 LED matrix display and two circuit boards to power it, much like you would see on trains. I received a Gold CREST award for this.

In university, I furthered this by co-founding the Ulster Society of Student Engineers within Ulster University. We ran workshops to help others learn circuit board design and programming microcontrollers. It was so much fun. We won the best new society at the National Societies Awards too!

During my PhD I learned MATLAB for data science, and python to create websites. On the job, I have learned how to work in a team to create complex algorithms. It is easy to get stuck, so learning the ability to ask questions and work within a talented team is essential to further your coding ability.