

Guy Nicholson

Machine Learning Architect at Google



What is your current job?

I work in a team of engineers simulating how audio is processed in silicon chips, using machine learning to make that processing more efficient and effective.

Previously you worked at Apple, what was your most exciting project there?

The iPhone 5 development included a deliberate effort to make it sound better. A lot of the technology I worked on, such as active noise control and microphone beam forming, played an important role in improving the sound.

Your tech has been used by millions of people then, how does that make you feel?

It's certainly a source of satisfaction knowing my work is in use. You also get lots of feedback from customers when they know you work for Apple!

What was challenging about that job?

For smartphones you have very little space in devices and not much power. You're problem solving sound problems but with lots of other things you must work around.

What do you love about working in audio?

The people are like minded and have a shared passion. That means you feel you fit in and enjoy the company of colleagues. It helps that most people in audio are interested in both sound science and art.

Why did you get into acoustics and audio?

At school I was a musician with interests in electronics and was good at physics and maths. As a teenager I was building loudspeakers as well as playing electronic and classical music.

What did you study?

I did a degree in Applied Acoustics at the University of Salford, followed by a PhD in active noise control, also at Salford.

How did you get into your career?

I feel very lucky because I got into the smartphone business and worked through that wave of development as smartphone usage expanded rapidly. My training at Salford in Acoustics was crucial for getting me jobs with Nokia, then Apple in California and now at Google in Silicon Valley, USA. Apple employed me because of the active control techniques I had developed during my PhD at Salford.

What are some of the skills you need in your job?

Attention to detail and focus while problem solving is important. Empathy with other peoples' challenges at work and celebrating their success is also important. As are good communication skills.

What else might a student need to know about a career in audio?

It's important to have a genuine interest. Sound is often lower priority to imaging (camera, display, design etc. in smartphones), and what sustains you is your own interest.