ANDREW SIMON WILSON

Engineer & EMIMEO Masters Candidate

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CAREER AIMS

- Gain more in-depth knowledge in Physics, Electronics, and Software Engineering.
- Attain a Masters in Physics, Electronics, programming, or similar fields.
- Obtain an industry or PhD position and gain experience in Quantum Physics, Electronic Design, or a related field.

My career aims are the goals I intend to achieve in the next five years. However, I will always have a love of learning, research, and engineering in general and my desire to learn, create, and explore will never stop.

RELEVANT WORK POSITIONS

Seven Technologies Group

Student Mechatronics Engineer

September 2020 – July 2021 | Lisburn, Northern Ireland

Design and testing of a prototype, portable PTU (Pan & Tilt Unit) and camera controller design.

- Embedded Linux-based OS/Kernel/Device-Tree programming for the NVIDIA Jetson Nano & Xavier NX platforms.
- Analogue & high-speed (HDMI, USB SS, MIPI-CSI2, etc.) digital design, and PCB Layout using Altium.

Electronics Placement Engineer

May 2019 – August 2020 | Lisburn, Northern Ireland

- Analogue / high-speed digital circuit design and PCB Layout based on specifications both in projects on my own, and as part of a team of Engineers.
- Design / testing of low-level software & edge compute ML algorithms for an Nvidia Jetson TX2 based, embedded, smart sensor system.
- Embedded microcontroller programming, testing, and hardware debugging involving various trackers and communication devices.

RELEVANT EDUCATION

EMIMEO - Erasmus Master on Innovative Microwave Electronics and Optics

Sep 2021 - Present | **UNILIM** & **UNIBS**

An **Erasmus Mundus Joint Masters Degree** focusing on electromagnetics and photonics. **Selected modules:**
Quantum Technologies, Microwave Engineering, Photonics, Digital Modulation and Channel Coding, and Active & NL Electronics.

I can provide more relevant modules for applications, these are some of my favourite courses

BEng Mechatronic Engineering and Diploma in Professional Practice

Sep 2017 - Sep 2021 | Ulster University, Northern Ireland

During this degree I also completed two years of work experience as an electronic design engineer. **Selected modules:**
ASICs and Digital Design, Mechatronics 1/2, Electronics 1/2, Embedded Systems, and Analytical Methods for Engineers.

I can provide more relevant modules for applications, these are some of my favourite courses

PROGRAMMING AND SOFTWARE

LaTeX	●●●●●
Embedded C/C++	●●●●○
BASH/Linux	●●●●○
Python	●●●●○
MATLAB	●●●●○
CL Git	●●●○○

Altium/KiCAD	●●●●●
LTSpice/PSpice	●●●●○
SolidEdge/Works	●●●●○
CST MW Studio	●●●○○
Ansys HFSS	●●●○○
Keysight ADS	●●●○○

REFERENCES

Dr. Robert J. McMurray,
Mechatronics Course Director
rj.mcmurray@ulster.ac.uk
+44 28 9036 6176
Ulster University

Christopher Armstong,
Head of Electronic Engineering
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Seven Technologies Group

Further references available on request

ACADEMIC INTERESTS

- Quantum Physics
- Robotics & Embedded Systems
- Electronic & Mechanical Design

PROFESSIONAL AND TECHNICAL SKILLS

- Analogue/Digital Electronics
- Mechanical Design
- Python3
- PCB Design
- Prototyping
- Embedded programming
- Problem Solving
- Fast Learner
- Leadership
- Autodidact
- Good Communication
- Teamwork
- Initiative

PERSONAL PROJECTS AND OTHER WORK/EDUCATION

Rogue GP, Independent Race Team

Design Engineer & Team Member

Nov 2019 – Present | Northern Ireland

AS-Wilson/RogueGP

Self-funded Green Power Electric vehicle race team. A team of Engineers designing and manufacturing a car (Leictreachas - Irish for electric) to compete worldwide.

- MCAD design and production of technical drawings for the vehicle chassis, suspension, and drivetrain.
- Manufacture of prototypes and working designs, using a variety of tools and techniques including Aluminium TIG welding, aluminium casting, composites manufacture, power & hand tools, etc.

Primary Engineer, Narrow-Bridge Vehicle Detection System

Engineer

Sep 2020 – Dec 2020 | Ulster University

mjennings061/primary-engineer

Team-based project using C++ programming of microcontroller and PIR sensors to detect passing cars before a narrow bridge. A signal is sent, via Wi-Fi and RF, to a receiving device to warn oncoming vehicles using LEDs. Project completed in mid December 2020.

Interdisciplinary Approaches to Biology

Selected Participant

Jul 2019 | EMBL, Heidelberg, Germany

Two week summer school which introduced undergraduates from a variety of backgrounds (Engineering, Physics, Biology, etc.) to the current research at EMBL and other institutions. I obtained hands-on experience in wet-lab work, high-speed microscopy, and using machine learning and computer vision to analyse biological data.

Ulster Society of Student Engineers

Chairperson

May 2018 – May 2019 | Ulster University, Northern Ireland

- Management of, and participation in, technical projects, including but not limited to: NI Robotics League, RF Telescope, Greenpower electric car, etc.
- Designed, founded, and coordinated the first maker-space for Student Engineers in Ulster University
- Organised multiple STEM outreach programs for Sentinus, Greenpower, etc.

JESSE Blinds and Shutters

Welder, Fabricator, Fitter

May 2016 – May 2017 | Stoneyford, Northern Ireland

- Manufacture and assembly of bespoke shutters, awnings, wind-breakers, gates, railings, etc. from technical drawings using MIG/ARC Welding, power/hand tools, and a variety of Engineering techniques.
- Production of technical drawings to customer specifications and drafting engineering drawings from self-recorded measurements.

BTEC Level 3 180-Credit (UK Credits) Extended Diploma in Manufacturing Engineering

Sep 2013 - May 2015 | South Eastern Regional College (SERC, Northern Ireland)

Earned essential practical and theoretical mathematics, electronic, and mechanical skills in the modules completed in this course. A selection of Completed Modules include (but are not limited to): Application of Computer Numerical Control in Engineering, Computer Aided Manufacturing, Properties and Applications of Engineering Materials, etc.