

Aedan McHale

Graduate Engineer | MEng Electrical and Electronic Engineering (Hons)

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SUMMARY

I am an Electronic Engineer and Software Developer currently working at Nidec Drives. Originally from the U.S.A., I came to U.K. as a dual citizen and earned a Masters of Engineering from the University of Nottingham with a thesis focused on the embedded application of machine learning to develop an automated predator detection and deterrent system.

SKILLS

Embedded Firmware Development

Arduino Assembly
Automated Testing C C++
CMake MicroPython
Performance Profiling
STMicroelectronics

Software Engineering

AI & Machine Learning
Azure DevOps C# GitHub
Powershell Python
Qt Framework SQLite
WPF / WinForms
Regular Expressions (Regex)

Written Communication and Documentation

After Effects CSS Doxygen
HTML LaTeX Markdown
Microsoft Office Suite Photoshop

Industrial Automation

CoDeSys FieldBus
IEC Structured Text IronPython
PLCs TIA Portal TwinCAT
Variable Speed Drives

Extended Languages

Autohotkey Batch Go
JavaScript MatLab Perl
Ruby Typescript

Personal

Quick Learner Critical Thinker
Problem Solver Adaptable
Resilient

WORK EXPERIENCE (2)

Oct 2023 - Current

Graduate Engineer at Nidec Drives

📍 Newtown, Wales 🔗 <https://acim.nidec.com/en/drives/control-techniques>

Gained experience in a wide range of technical fields, and skills in communicating complex systems to multidisciplinary teams, management, and end users.

- Debugged and resolved customer issues in EtherNet/IP modules, enhanced automated testing framework to address both current and potential issues
- Created new features and optimized code for the user keypad interface
- Conducted research and delivered a presentation on the PROFIDrive fieldbus protocol with competitor product analysis
- Tested the thermal capability of high-power modules to ensure reliability while developing thermal models using Siemens Flotherm for comparison
- Wrote comprehensive documentation and proposed a solution for GitHub software distribution
- Designed visualizations in CoDeSys and TwinCAT environments for a SoftMotion interface

- Developed embedded firmware for next-generation VSD (Variable Speed Drive)
- Worked collaboratively using Azure DevOps and Team Foundation Server

Jun 2021 - Oct 2023

Undergraduate Engineer at Control Techniques (Nidec)

📍 Newtown, Wales [🔗 https://acim.nidec.com/en/drives/control-techniques](https://acim.nidec.com/en/drives/control-techniques)

Summer work placements between university terms, focusing on digital design and power electronics, putting university learning into practice.

- Created an automated Double Pulse Testing system, using an STM-Nucleo development board, and a custom C# WPF PC Application
- Designed a mobile app user experience for NFC communications training
- Created an Azure development repository with Git versioning and extended documentation

PROJECTS (2)

Personal Website

Mar 2024 - Current

[🔗 https://aedanm.uk](https://aedanm.uk)

Django Python SQLite HTML CSS UI/UX

File Operations Tool

Sep 2024 - Jan 2025

[🔗 https://github.com/AedanM/FileOperationsGUI](https://github.com/AedanM/FileOperationsGUI)

Python Qt UI/UX

EDUCATION (1)

2019 - 2023

MEng - IET Accredited Masters in Engineering Electronic and Electrical Engineering at University of Nottingham

Thesis Project: Machine Learning Predator Deterrent System Group project: Low Power Vehicle Monitoring System

Group project: Doppler Speed Gun Advanced computational engineering Advanced control Advanced engineering mathematics

Analogue electronics Distributed generation and alternative energy Electrical machines drive systems and applications

Embedded computing HDL for programmable devices IT infrastructure and cybersecurity Modelling: methods and tools

Professional studies

AWARDS

2019

Eagle Scout at Boy Scouts of America
Highest Rank in American Scouting

INTERESTS

Outdoorsmanship

Hiking Camping

Concert Band

Clarinet Saxophone

Gardening

Vegetable Garden Rewilding

Travel

City Breaks Road Trips

Film and Cinema

SFX Lover Historic Cinema

Cooking

Meal Prepping Technical Meals