

Kitty Farren

Development Engineer at Nidec Drives

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📍 United Kingdom GB

👤 ABOUT

Development engineer working in industrial automation. Currently working on power electronic modelling including software; firmware and electronics development for thermal monitoring in AC drives. Working towards chartership as an electronics and electrical engineer. Skilled in software development, embedded development and power electronic design.

🏢 WORK

Nidec Drives (prev Control Techniques)

📅 Jul 2019 - Nov 2024

📍 Mid-Wales, UK

🕒 5 yrs 4 mos

• Development Engineer

📅 Oct 2024 - Present 🕒 0 yrs 1 mos

Developed a new thermal model generation process.

- Supported a junior engineer in carrying out thermal testing.
- Constructed a panel for automated IGBT thermal data collection including a custom PCB, embedded solution and 3D models.
- Wrote a C# program for processing large amount of IGBT thermal data into a VFD thermal model.

• Graduate Engineer

📅 Jul 2022 - Jul 2024 🕒 2 yrs 0 mos

This role included rotations in different departments to broaden my engineering skill set

- Power electronics: Created an upgraded IGBT thermal testing device; wrote a new python tools for digital twin development and research novel current sensing technology for next gen drives; conducted emission EMC testing.
- ECAD: Completed a lay out a production quality family of boards (FOB); set up an internal KiCAD workflow; created a manufacturing board to test DFM processes and aided the India team in creating layouts and schematics.
- Tech Support: Answered customer tickets; solved VFD field failures; created recruitment resources; produced a Python browsing data processing tool and wrote a specification for a set of Android setup wizards.
- ECPE courses attended: Tutorial EMC in Power Electronics, Workshop Condition & Health Monitoring.

• E3 Student Engineer

📅 Jul 2019 - Jul 2022 🕒 3 yrs 0 mos

Summer placements in different teams at Nidec Drives as part of the E3 Academy Scholarship Scheme

- Electronics (2019): EMC and efficiency testing prototype control boards including SiMetric circuit design, soldering and proto-board creation and EMC testing.
- Tech Support (2020): Review of strings used in drives to improve customer experience.
- Elevator (2021): Specified and produced a suite of software tests for elevator drives written in Structured Text on a PLC.

👤 VOLUNTEER EXPERIENCE

STEM Ambassadors

📅 Sep 2021 - Present

<https://www.stem.org.uk/stem-ambassadors>

🕒 3 yrs 2 mos

• STEM Ambassador

📅 Sep 2021 - Present 🕒 3 yrs 1 mos

STEM ambassadors aims to raise the awareness and understanding of STEM careers. This includes attending careers fairs and events; creating classroom showcases and leading computer workshops with the STEM ambassadors and careers teams.

- Promoting STEM to young women and being visible as a women in engineering.
- Managing and running workshops to give students hands-on experience and making links to real-world applications.
- Developing interactive demonstrations of software writing, electronics and control systems.
- Giving presentations and Q&A sessions to help de-mystify STEM.
- Improving my communication skills with those not in technical roles.

</> PROJECTS

Personal Website A static website for writing up personal projects

Bluetooth Earrings A set of bluetooth earrings that blink different colours dependant on bluetooth messages. Still in development.

🏆 AWARDS

Peter John's Award for Outstanding Final Year Student

The University of Nottingham

Michael Bromwich Award for the Two Highest Achieving Home Students

The University of Nottingham

EDUCATION

University of Nottingham

 Dec 2018 - Dec 2022

Electrical and Electronics Engineering

MEng IET Accredited (1st Hons)

- Individual project: "A Framework for Plenoptic HDR Imaging using Metasurfaces"
- Computer Aided Engineering
- Power and Energy
- Information and Systems
- Electronic Processing and Communication
- Electrical Energy Conditioning and Control
- Contemporary Engineering Themes
- Modelling Methods and Tools
- Electrical Machines, Drive Systems and Applications
- IT infrastructure and cybersecurity
- Analogue Electronics
- Sensing Systems
- Professional Studies
- Digital Signal Processing
- Instrumentation and Measurement
- Advanced AC Drives
- HDL for Programmable Devices
- Group Projects: Autonomous RC Car (incl line following), SMPS design and creation, Doppler radar gun, Car telemetry system- full stack JavaScript web-application created

“ REFERENCES

Lead Power Electronics Engineer: Ed Peate

Company: Nidec Drives, Email: ed.peate@mail.nidec.com

Director of Control Systems: Mike Cade

Company: Nidec Drives, Email: mike.cade@mail.nidec.com

SKILLS

Electrical And Electronics Engineering

Thermal Modelling VHDL EMC Design and Testing Power Electronic Design
Digital and Analogue Electronic Design

Industrial Automation

Variable Speed Drives (VSDs, VFDs) IEC Structured Text PLCs Panel Design

CAD

CST Microwave Studio Simetrix PLECs LTSpice KiCAD DxDDesigner Blender FreeCAD

Software Development

Python C C++ C# VBA Databases/ SQL JavaScript

UI Frameworks

Vue.js WPF WinForms Qt PyQt

Embedded Development

C Automated Testing Digital Signal Processing

Written Communication And Documentation

Microsoft 365 LaTeX Markup HTML

* OTHER

Languages English (Native Speaker) German (Limited Working)

Interests Crochet and Needlework 3D modelling (Blender) Hobbyist Electronics Rock Climbing Painting Running Singing and Guitar