

# Kitty Farren

## Development Engineer at Nidec Drives

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📍 UK

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🌐 [kittyfarren.dev](https://kittyfarren.dev)

## 👤 ABOUT

Development engineer with a master's degree in electrical and electronics engineering, working in industrial automation. Currently working on creating a power electronic fault detection system for AC drives including software; firmware and electronics development. 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

📍 Powys

🕒 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 including custom UI.

#### • Graduate Engineer

📅 Jul 2022 - Jul 2024 🕒 2 yrs 0 mos

This role included rotations in the Power Electronics, ECAD and Tech Support 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; underwent production quality soldering training.
- 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 data processing tool and wrote a specification for a set of Android setup wizards.
- Attended ECPE courses for EMC in Power Electronics and Condition and Health Monitoring in Power Electronics.

#### • E3 Student Engineer

📅 Jul 2019 - Jul 2022 🕒 3 yrs 0 mos

Summer placements in the Electronics (2019), Tech Support (2020) and Embedded Elevator (2021) teams as part of the E3 Academy Scholarship Scheme

- Created prototype control boards and conducted EMC efficiency testing using SIMetrix for circuit design.
- Reviewed strings in drives to improve customer experience.
- Specified and produced a suite of software tests for elevator drives written in Structured Text on a PLC.

## 🎓 EDUCATION

### MEng Electrical and Electronics Engineering

📅 Dec 2018 - Dec 2022

University of Nottingham

1st Class Hons. IET Accredited.

Individual Project:

A Framework for Plenoptic HDR Imaging using Metasurfaces

Modules:

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; and HDL for Programmable Devices.

Group Projects:

Autonomous RC Car (including line following); SMPS design and creation; Doppler radar gun; and Car telemetry system including full stack JavaScript web application.

Awards:

Peter John's Award for an Outstanding Final Year Student and Michael Bromwich Award for the Two Highest Achieving Home Students.

## VOLUNTEERING

### STEM Ambassadors

- **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.

- Promote STEM to young women and being visible as a women in engineering.
- Manage and running workshops to give students hands-on experience and making links to real-world applications.
- Develop interactive demonstrations of software writing, electronics and control systems.
- Give presentations and Q&A sessions to help de-mystify STEM.
- Demonstrate presentation skills explaining technical information to a non-technical audience.

### Women in Engineering Society (WES)

- **Member (MWES)**

 Jan 2022 - Present  2 yrs 10 mos

This is a group to support and increase the visibility of women in engineering.

- Organised company engagement with the "Lottie Tour" for Tomorrow's Engineers Week 2023 to show different sectors of engineering to young women.
- Founded the Women in Engineering group at Nidec Drives which now includes all women in STEM roles at Nidec Drives.
- Took part in Women in Tech promotional events including chairing a Women in Engineering round-table video and attending international women's day events.

## 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 DxDesigner 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

## “ 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