

Kitty Farren

Development Engineer at Nidec Drives

✉ farren.kitty@gmail.com

☎ 07538096370

📍 UK

in www.linkedin.com/in/kitty-farren

🐙 github.com/kitblafar

🌐 kittyfarren.dev

👤 ABOUT

Development engineer with a master's degree in electrical and electronics engineering currently working in internal tool development for an industrial automation company but looking to move into a software development role. Developing for the past year, a power electronic thermal model generation system for AC drives including an MVVM C#.NET application; SQL database (SQL Server) and electronics and firmware for custom panel.

🏢 WORK

Nidec Drives (prev Control Techniques)

📅 Jul 2019 - Present

📍 Powys

🕒 5 yrs 5 mos

• Development Engineer

📅 Oct 2024 - Present 🕒 0 yrs 2 mos

Developed a new thermal model generation process.

- Wrote a C#.NET program for processing large amounts of IGBT thermal data into a VFD thermal model including WPF UI and SQL server database.
- Supported a junior engineer in carrying out thermal testing.
- Constructed a panel for automated IGBT thermal data collection including a custom PCB, embedded C++ solution with Arduino and 3D models.

• 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: Wrote Python and VBA tools for automated power electronics simulation and data processing; Created an upgraded IGBT thermal testing device; wrote a more efficient C# algorithm for processing thermal data that reduced run time by 8 hours and researched novel current sensing technology for next gen drives.
- ECAD: Completed a lay out of a family of boards (FOB); demonstrated company use of distributed version control on DevOps for PCB designs; 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: produced a Python data processing tool with Qt framework UI; wrote a specification for a set of Android setup wizards using Figma; answered customer tickets; solved VFD field failures.
- 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 automated 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; Information and Systems; Electronic Processing and Communication; Modelling Methods and Tools; HDL for Programmable Devices; IT infrastructure and cybersecurity; Digital Signal Processing; Sensing Systems; Instrumentation and Measurement; Power and Energy; Electrical Energy Conditioning and Control; Contemporary Engineering Themes; Electrical Machines, Drive Systems and Applications; Analogue Electronics; Professional Studies; and Advanced AC Drives.

Group Projects:

Car telemetry system including JavaScript web application to plot streamed and saved data; Autonomous line following and RC Car using C++ OpenCV on Raspberry Pi; SMPS design and creation; and Doppler radar gun.

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 2 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 woman 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.
- Developed presentation skills explaining technical information to a non-technical audience.

Women in Engineering Society (WES)

• Member (MWES)

 Jan 2022 - Present  2 yrs 11 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

Software Development

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

Frameworks

Vue.js ASP.NET WPF Bulma WinForms .NET Framework .NET Core Qt Tkinter

Embedded Development

C++ C Arduino Automated Testing Digital Signal Processing

Electrical And Electronics Engineering

Thermal Modelling VHDL PCB and ECAD Circuit Simulation 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

Written Communication And Documentation

GitHub DevOps TFS Microsoft 365 LaTeX Markup HTML CSS

PROJECTS

All my projects are available at: <https://github.com/kitblafar/>

Personal Website

A static website for writing up personal projects written in vanilla html and css (apart from the confetti).

Xmas Photo Game

An game were the player tries to get photos of themselves doing certain challenges. A full-stack web-application with REST ASP.NET MVC API, Vue.js frontend and SQLiteDB. The API runs using Docker on my website server.

Bluetooth Earrings

A set of Bluetooth earrings that blink different colours dependent on BLE messages using NRF52833, custom PCB and enclosure. Still in development, also available on my GitHub.

Meta-surfaces for HDR, Plenoptic Imaging

My dissertation project on designing metasurfaces for plenoptic, HDR imaging. Includes MATLAB generation program, from CST simulation results and Python image reconstruction program.

Road Range

A web-app to stream car telemetry data to the browser. Node.js backend with Vue.js frontend.

* 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: available on request