Kitty Farren

Development Engineer at Nidec Drives

farren.kitty@gmail.com
07538096370
UK

www.linkedin.com/in/kitty-farren github.com/kitblafar 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 an MVC C# .NET application; SQL database and electronics and firmware for custom panel. Skilled in software, embedded and electronics development.

WORK

Nidec Drives (prev Control Techniques)

Jul 2019 - Nov 2024
5 yrs 4 mos

Powys

- **Development Engineer**

  Oct 2024 - Present 0 yrs 1 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 UI and SQL database.
  - 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.

- **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 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 and wrote a specification for a set of Android setup wizards using Figma; answered customer tickets; solved VFD field failures; created recruitment resources.
  - 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; 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:
Car telemetry system including full-stack JavaScript web application using Vue.js to plot streamed data from the car.; Autonomous line following and RC Car; 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 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 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.
- Give presentations and Q&A sessions to help demystify 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

Software Development	Python C C# VBA Databases/ SQL JavaScript Git
Frameworks	Vue.js WPF WinForms .NET Qt PyQt Tkinter
Embedded Development	C++ C Automated Testing Digital Signal Processing
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
Written Communication And Documentation	Microsoft 365 LaTex Markup HTML CSS

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