

Peter Gillingham

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Personal Statement

I am a software developer, with a broad skillset including full stack web development, data science and analysis with Python and MATLAB, and embedded systems engineering with C and C++. I graduated from the University of York, awarded an Upper Second Class Honours for an Integrated Masters in Electronic Engineering with Music Systems Technology. In my career so far I have successfully integrated myself into fast paced environments, working with many technologies across multiple areas of software engineering, including front and back end web development, implementation of AI solutions and in research on networking in embedded devices.

Work Experience

Research Software Engineer

April 2024–Present

University of York

I work across multiple projects. I and the lead developer in the implementation of a solar panel data tracking dashboard, designing the database, developing the APIs for access and creating the frontend for visualisation, as well as using machine learning techniques for predicting energy generation and usage. I also develop software for experiments involving embedded networking devices, working to test jamming attacks and developing countermeasures to them.

Software Engineer

August 2023–February 2024

Premium Lithium

I have worked across many disciplines in this role, developing full stack web applications, leading multiple projects in operations management and internal statistic tracking, and implementing AI applications for energy arbitrage and solar panel detection. It was a fast paced start up requiring me to manage my time effectively, meet ever changing requirements and deadlines, and work as part of an agile team.

Production Operator

October 2021–August 2023

DJ Assembly

I worked in all areas of production and manufacturing of electronic goods, including circuit assembly, equipment building, and inspection, testing and validation. I also gained experience in managing outgoing and internal stock and logistics.

Education

Integrated Master's in Electronic Engineering with Music Systems Technology

September 2019–June 2023

University of York

This course has taught me and improved my knowledge in many areas, including electronics, software development, hardware implementation, embedded system design, networking, digital signal processing and data analysis.

A Levels - Computer Science, Mathematics and History

September 2017–June 2019

Moulsham High School

9 GCSEs including English and Mathematics

September 2012–June 2017

Moulsham High School

Technical skills

Languages	Python (Pandas, Numpy), JavaScript/TypeScript (Node.js, React, SvelteKit), C, C#, Java, MATLAB and SQL
Technologies	Git, Linux, PostgreSQL, .NET, AWS, Google Cloud Compute, Vercel
Software	Object Oriented Programming, Agile Methodology, Algorithm Design, Database Design and Management
Engineering	Circuit Design and Analysis, Hardware and Software Integration, Embedded System Design and Development

Achievements

- Led a project to develop an AI driven energy arbitrage algorithm for use in homes to manage the purchasing and storing of generated energy.
- Investigated vulnerabilities in Thread Network devices, developing a console and GUI utility for controlling embedded devices, and implementing jamming attacks and countermeasures in a testbed thread network.
- Set up data collection of a solar farm, including energy and weather data in a Dockerised MySQL database, alongside a web based (React) frontend and Python API for visualisation and data retrieval, and trained energy usage and generation prediction with machine learning models from the data.

Interests

I have played guitar for over a decade, drums for four years, and have taken on the role of lead guitarist and audio engineer for my band, resulting in us releasing two albums and playing multiple shows in York. I am also a keen and regular climber, both in climbing gyms and outdoors, and I enjoy cycling in and around York.