

ALEX DOWSETT

✉ alex@dowsett.dev | dowsett.dev | 📍 Location: Essex, UK

Aspiring Software Engineer | Recent Electronic Engineering Graduate

Enthusiastic graduate with a 2:1 Bachelor of Engineering in Electronic Engineering with Computer Systems from the University of Surrey. Passionate about leveraging seven years of Python and SQL experience to develop data-driven, innovative solutions. Adept at leading software teams, solving complex problems, and delivering impactful projects.

EDUCATION

University of Surrey | 2020 – 2024

- **Bachelor of Engineering in Electronic Engineering with Computer Systems**
- Achieved: 2:1 (Second Class Honours Upper Division)
- Final Year Project:
 - *"Data Analytics Software for Agricultural VOC Analysis"*
 - Created bespoke software using Python and SQL to process millions of data points from RoboScientific VOC sensors analysing emissions from pigs in an animal farm.
 - Cleaned, normalized, and standardized data; applied machine learning algorithms to detect patterns and predict potential health issues.
 - Resulted in a predictive tool now being developed further by a PhD researcher at the University of Surrey.

Mayflower High School and Sixth Form | 2012 – 2019

- The top performing Mathematics and Computer Science student in GCSE and A-Level.
 - A-Level: Maths (A*), Computer Science (A), Physics (B)
 - GCSEs: Maths (9), English Lit. (7), English Lang. (4), Computer Science (A*) and six others (A*-C)
 - UKMT Awards: Best in School, Silver Award, Multiple Bronze Awards.
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WORK AND VOLUNTEERING EXPERIENCE

Independent Developer & Self-Study | 2024 – 2025 (Post-Graduation)

- Dedicated time post-graduation to enhancing web development and software engineering skills.
- Built and launched a personal portfolio website using Next.js, React, and JavaScript.
- Completed multiple online courses and self-study modules in advanced web development, full-stack systems, and software architecture.

Software Lead – "Vivant" Group Project | 2023 - 2024

- Led the software development for a Raspberry Pi-based smart doorbell.
- Developed the backend systems using Python, SQL, and PHP, creating functionalities for biometric unlocking and GUI-based video communication.
- Assigned tasks to team members, ensured timely delivery of software milestones, and collaborated with the hardware lead to align software and hardware integration.

Freelance Tutoring | Maths and Physics Tutor | 2018 - 2019

- Mentored nine GCSE and A-Level students in mathematics and physics, leading to an average grade improvement.
- Developed tailored lesson plans to address individual learning needs, enhancing understanding of complex concepts.

Billericay IT Solutions & Web Services | IT Support | 2018

- Diagnosed and resolved customer IT issues, achieving a 90% first-attempt success rate.
- Built and maintained websites improving user experience for small business clients.

- Introduced and independently managed mobile phone repairs, expanding the company's service offerings.

TECHNICAL SKILLS

- **Programming Languages:** Python & SQL (7 years, advanced), JavaScript, Next.js, React, PHP, HTML, CSS (Intermediate),
- **Software & Tools:** Git, Visual Studio Code, WebStorm, Microsoft Office Suite
- **Frameworks & Concepts:** Machine Learning (scikit-learn), Data Cleaning & Normalization, Biometric Systems, Database Development & Maintenance, GUI Development, Object-Oriented Programming (OOP)

KEY PROJECTS

Portfolio Website (2025) | dowsett.dev

- Designed and built a personal portfolio website to showcase projects, skills, and achievements.
- Technologies Used: Next.js, React, JavaScript, HTML, CSS.

Data Analytics Software for VOC Analysis (2023-2024)

- Developed software to analyse and predict health conditions in pigs using data from RoboScientific sensors.
- Leveraged Python and SQL to process and normalize millions of data points and applied machine learning to uncover trends from environmental interventions.

Vivant Smart Doorbell (2023-2024)

- Created a smart doorbell system with a GUI, facial recognition and fingerprint authentication using Python & SQL, and PHP to create an API to allow communication with iOS app.
- Designed a user-friendly GUI for video communication with visitors and integrated it with a Raspberry Pi for hardware interfacing.
- Gained hands-on experience with Linux systems for development, deployment, and system optimization.

Hairdresser Booking System (2018–2019)

- Built a bespoke booking system using Python, Tkinter, and SQL for a local hairdresser.
- Features included a login system, appointment scheduling, and payment tracking.

ADDITIONAL SKILLS

- Strong leadership demonstrated by coordinating software tasks for a 7-member group project.
- Skilled in debugging, troubleshooting, and integrating complex systems.
- Proficient in data-driven problem-solving and machine learning applications.
- Managing a family member's financial estate as Power of Attorney, gaining hands-on experience in inheritance tax, tax planning, and investment strategies and optimizing tax efficiency.

HOBBIES AND INTERESTS

- Exploring emerging technologies and building personal coding projects.
- Playing the piano and staying active with squash.

REFERENCES

Available upon request.