BRADLEY WALDEN

4th Year Electronic & Computer Engineering Student

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Ambitious and dedicated 4th year Electronic & Computer Engineering student at the University of Galway, I have a strong academic record, currently on track for 1st Class Honours. Based on academic performance, I was selected to complete my 3rd year abroad at Purdue University, USA, which was an incredible experience, both academically and personally. I pride myself on my technical skills and my ability to quickly learn and adapt to new challenges. I enjoy almost all aspects of electronic engineering and computer science, but I have particular interests in software development, embedded systems and networking.

TECHNICAL SKILLS

Programming & Problem Solving

- Proficient in Python, C, C++, Java, experience in object-oriented design & data structures
- Strong technical problem-solving and debugging skills across hardware and software systems
- Familiar with Git version control, Linux environments, shell scripting & command line tools

Hardware Electronics

- Circuit design, analysis, and simulation (analog & digital), PCB layout and soldering
- Microcontrollers and embedded systems

Signal & Data Processing

- Strong foundation in signals and systems, time/ frequency domain analysis and Fourier transforms
- Signal processing concepts, sampling, filtering
- Python for data analysis, simulation, and algorithm development

Wireless, Networking & Communication

- Practical knowledge of networking protocols, IP addressing, and network security
- Understanding of RF theory and wave propagation through electromagnetics

EDUCATION

B.Eng + M.Eng Electronic & Computer Engineering **University of Galway** 📅 Exp. 2027

3rd Year Modules
87.5% - 1st Class Honours

📍 Purdue University, USA
- Advanced C Programming (A)
- Object Oriented Programming with C++ (A+)
- Professional Communication & Ethics Capstone (A)
- ASIC Design (A+)
- Signals & Systems (B-)
- Computer & Network Security (A)
- Digital Integrated Circuit Analysis & Design (A)
- Electromagnetics I (B+)
- EPICS Project (A+)
- Descriptive Astronomy (A+)

2nd Year Modules
74.25% - 1st Class Honours

- OOP - Java (92%),
- OOP: Data Structures & Algorithms - Java (74%),
- Communications & Networking Foundations (64%),
- Analog Systems Design I (56%),
- Digital Systems I (77%),
- Microprocessor Engineering (82%),
- Circuits & Systems (79%),
- Instrumentation & Sensors (67%),
- Fundamentals of Electromagnetic Theory (91%),
- Maths & Applied Maths I (73%),
- Maths & Applied Maths II (66%),
- Engineering Statistics (70%)

1st Year Modules
80.42% - 1st Class Honours

- Engineering Chemistry (84%),
- Engineering Computing I (89%),
- Engineering Computing II (80%),
- Fundamentals of Engineering (76%),
- Engineering Design (78%),
- Engineering Graphics (70%),
- Engineering Calculus (93%),
- Engineering Mathematical Methods (77%),
- Engineering Mechanics (88%),
- Engineering Physics (76%)

IB Diploma **38/45 Points**   📅 May 2020   📍 International School Basel
Higher Level: Mathematics (7), Physics (6), Chemistry (6)
Standard Level: English A Lit (6), German B (6), History (5)
NB: Each subject graded out of 7, with up to 3 bonus points for Extended Essay & Theory of Knowledge.

COLLEGE PROJECTS

Satellite Scramble **Interactive Science Museum Exhibit**

During my year abroad at Purdue University, I contributed to an interactive exhibit for a local science museum. The exhibit uses lasers to teach children about how satellite communications work. I worked on this long-term project for only one semester, but I was able to progress the electronics of the project much further than it had been before.

Society Games Web System 'Hunger Games' Player Tracking
For a charity event, run by the university society office, I developed an Android app and Full-Stack web application. The Android app ran in the background of players' phones, reporting their GPS location to a Python web server, via REST API. The web application then displayed the players' location on an interactive stylised map of the campus.

Wireless Sound Effect Trigger Drama Society Production
I was the Head of Sound for a Drama Society production, in which one actor held a prop halberd/spear, which he would strike on the ground to command attention. I designed a system that used two microcontrollers, connected via Bluetooth, to wirelessly trigger sound effects when the prop was struck on the stage.

GEEC - Galway Energy Efficient Car Electronics Team Member
During first year, I was selected for the GEEC's electronics systems, and also to be one of the 15 students to travel to the Shell Eco-Marathon in France, to compete in the competition. It was an amazing opportunity to work on a real-world engineering project, collaborating with the other teams (mechanical, design, business etc.) and working under pressure to meet deadlines, and adhere to strict competition rules and safety standards.

RELEVANT WORK EXPERIENCE

Audio/Video Technician
Elliot Hall of Music, Purdue   Aug 2024 – May 2025   West Lafayette, Indiana, USA

- Operated and maintained complex audio, video, and lighting systems across 50+ live events
- Configured and troubleshot digital consoles, video switchers, and wireless systems, strengthening systems integration and fault-finding skills, applying knowledge of signal flow & networking in real-world technical environments

Audio/Video Technician
Uni. of Galway Societies Office   Oct 2023 – May 2024, Aug 2025 –   Galway, Ireland

- Audio and lighting at a variety of university events, incl. club nights, conventions and society events
- Problem solving and quick thinking skills, often working with limited time, resources and information

P2 Test Development Engineer Intern
Valeo   May 2023 – Sep 2023   Tuam, Ireland

- Developing a version control and auto-update system for production line testing
- Using a combination of NI TestStand, Python, Tortoise SVN & batch scripts, with seamless integration

IT Support Specialist
International School Basel   Dec 2021 – Aug 2022   Basel, Switzerland

- IT Helpdesk work, troubleshooting a wide variety of issues, across Windows, Mac & iOS
- Part of the tech crew for 4 school musicals, working as Dep. Head of Sound, Sound Designer, Patch Technician etc.
- Built the school's video streaming system, using up to 4 cameras to livestream concerts and events

Fast-paced Digital Prototyping Intern
Arcondis AG   Oct 2020 – Feb 2021   Basel, Switzerland

- Developed prototypes for a healthcare consultancy
- Strengthened my skills in AI, Natural Language Processing, Python Web Development (Django), Text-to-Speech
- Combined data from multiple sources to create an automated financial dashboard, in an unfamiliar scripting language

INTERESTS & HOBBIES

- Theatre tech, live event production, sound engineering
- Music - playing piano, singing
- Travel - lived in 4 countries, visited 15+ countries

References available on request.

SOFT SKILLS

- Quick learner, adaptable, problem solver
- Team player, good communicator, dependable
- Troubleshooting, working under pressure