Liam Browne

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Portfolio: lifb20.github.io/Portfolio/ | London, UK

Education & Qualifications:

MEng Electrical & Electronic Engineering with Management   *Oct 2020 – June 2025*
Imperial College London | UK
Key Modules: C++, Computer Architecture, Digital Systems Design, Machine & Deep Learning, Software/Hardware Verification

International Baccalaureate | Bilingual Diploma (42/45)   *Graduated June 2020*
International School Hannover Region | Germany
Higher Level: Mathematics **(7/7)**, Physics **(7/7)**, Economics **(7/7)**, Chemistry **(5/7)** Standard: English A **(7/7)**, German A **(7/7)**
Achievements: IB Diploma Programme valedictorian, authored 60-page book on climate change, raised €1500 to refurbish the school's gym

Programming Languages: Python (*Flask, Tensorflow/Keras*), Verilog, C++, Java, JavaScript, MATLAB (*Fixed-Point Designer*)
Technical Skills: Agile/Scrum, Full-Stack Development, Git/GitHub
Languages: English (Native), German (Native), Turkish (Basic proficiency)

Experience & Projects:

Imperial College London | UK

Patient Voice AI | Group Consultancy Project for MFTech   *April – June 2024*
- Built an intuitive web-app employing neural networks to extract vital patient-illness data in less than 20 seconds using only a voice recording
- Led the integration process of the cross-functional team, compiling the front-, back-end and neural networks into a single application

Sign-Language-to-Text Translator | Group Project at ICHackathon   *Feb 2024*
- Trained a neural network in Python that can translate sign language to text from a live video feed with 93% accuracy
- Connected to quiz-style web-app to enhance student engagement by gamifying the learning experience

FPGA Hardware Acceleration | Digital Systems Design Individual Project   *Jan – March 2024*
- Custom hardware implementation of cosine function 60% faster than calculating it on software
- Implemented custom data type conversion algorithm 85% more efficient than equivalent Intel IP
- Optimised using Monte Carlo simulations on MATLAB, guaranteeing a result precision of 10^{-6} with 95% confidence

Mars Rover | Second Year Group Project   *May – July 2022*
- Implemented maximum-power-point tracking algorithm for solar panels, increasing charging efficiency by 20%

CPU Design | Computer Architecture Individual Project   *Feb – March 2021*
- Designed a fully functional CPU capable of executing 11 machine code instructions fundamental to any modern device
- Implemented on a register-transfer level, optimising the pipeline to increase efficiency by up to 30%

International School Hannover Region | Germany

Collision Prediction Algorithm | Maths Report Individual Project   *July – Dec 2019*
- Developed algorithm, from first principles, capable of predicting collisions in space between stray projectiles and satellites, with extension to air traffic collisions – awarded highest grade in cohort of over 50 people

Activities & Leadership:

Imperial College Bars – Duty-Manager and Bar Staff   *Oct 2021 – March 2023*
- **Duty-Manager** as of August 2022, learning and employing leadership, management and communication skills in a high-paced environment, prioritising the well-being and satisfaction of both customers and staff alike
- Managed majority of 2022 FIFA World Cup games, with turnouts of up to 800 guests

Imperial College Union – Electrical & Electronic Engineering Society (EESoc) Events Officer   *Oct 2022 – June 2023*
- Liaised with external companies and the student union to organise social events throughout the academic year, including securing over £20 000 to fund EESoc's annual black-tie dinner with over 150 attendees

International School Hannover Region – Fitness Instructor   *June 2019 – Jan 2020*
- Mentored 10+ students twice a week in callisthenics to aid them in achieving their fitness goals