

London, UK  
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# Issa Bqain

Penultimate Year Engineering Student

Portfolio: IssaBqain.com

## EDUCATION

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**Imperial College London, MEng Electrical and Electronic Engineering** Predicted 2.1 **October 2018 — June 2023**

- Key Modules: Robotics, Control & Power engineering, Digital & Analogue Electronics, Communication, Signal Processing, Machine Learning, Deep Learning, Algorithms and data structures and Linear Mathematics.
- Awarded the Maurice Hancock scholarship for academic excellence.

**Cardinal Wiseman High School** **September 2011 — June 2018**

- A-level (2A\*2A) - Mathematics, Further Mathematics, Physics and Economics. GCSE (8A\*2A).

## WORK EXPERIENCE

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**VoltShare | Software Engineering Internship** **June 2021 — October 2021**

- Created an automated on-boarding and training process for electric vehicle charger installer partnerships using SQL, JS and Python.
- The project successfully gained full nationwide coverage (5230% increase) across the UK, with automated prices negotiated based on region, saving each customer 13% on installation costs .
- Developed internal tools using Google Maps API, SQL and AJAX which reduced time taken to match installers to customers by 80% .

**TSB Bank and Imperial Consulting Group | Associate** **October 2019 — January 2020**

- Conducted market analysis, evaluated FinTech partnership opportunities and delivered a technology strategy deploying the use of APIs and ML to utilise open banking. the research was presented to the head of digital banking.
- Developed a strategy using data aggregation to increase market share amongst low-income customers, following new regulation introduced by the Financial Conduct Authority to increase competition through open banking.

**Blighter Surveillance Systems | Signal Processing Spring Internship** **April 2019**

- Conducted signal analysis of the MK2 ground surveillance radar using MATLAB and Python for integration with a new power system. This decreased SNR by 17% and provided a cleaner FFT response for a given input.
- Tested sound surveillance and motion capture of the system before shipment to Gatwick airport and South Korea.

## PROJECTS

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### Amazon price tracker

- Developed an app that web scrapes and alerts users of Amazon product prices according to their requirements.
- Implemented using HTTP requests which are then parsed and sent using Python mail merge.

### Mastermind Algorithm

- Wrote an algorithm utilising a mixture of Knuth and Swazek algorithms which is able to solve any code from the popular Mastermind game. Optimised to obtain the code using the minimum number of attempts.

### Digital Charity Box

- Designed and manufactured from scratch a charity box to reduce the time taken after charity runs to count coin donations.
- Donated to Greenford Rotary Club which has reduced time taken to count coun donations by 70%.

### Visual Aid

- Created and built a unique device to aid the visually impaired to interpret graphical based information. The device is able to sample and physically represent any function from user input through the app.

### Remote Controlled Rover

- Designed a wirelessly controlled rover with the ability to detect, store and decode data for Acoustic, Infrared and Radio signals carrying UART data.

### Alarm System

- Designed and built a circuit which alerts users when a certain area is trespassed using photo-transistors and a 555 timer.

## TECHNICAL SKILLS

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**Software skills** Python, C++, MATLAB, Prolog, ARM assembly, Verilog, CSS, HTML, LabView, Quartus Prime, CAD design, LaTeX and Microsoft Office

**Data Science** Pandas, NumPy and Matplotlib

**Technical skills** Arduino, FPGA, 3D printing, laser machines, oscilloscopes, soldering and spray etching

## EXTRA-CURRICULAR ACTIVITIES

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**Courses** Harvard CS50x and CS50W (Introduction to computer science and web programming with JavaScript and Python).