

Alexander Montgomerie-Corcoran

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Education

Electrical and Electronic Engineering MEng, **2015–present**
Imperial College London, T.B.D.

I am currently in my 3rd year of study, and am taking courses in DSP, Machine Learning, Communications systems as well as others. My year averages are as follows:

Year 1 - 79% (was in top 5% of results)

Year 2 - 82% (was in top 5% of results)

Sixth Form, **2013–2015**
The Latymer Grammar School, London, 3 A's.*

Experience

Work Experience

Hardware Verification Engineer, **June,2017–Sept,2017**
Imperial College London, London, UK.

I participated in a undergraduate research placement with the Custom Computing Group in the Department of Computing at Imperial College in conjunction with Corerain Technologies. The project was to develop a reconfigurable hardware design for implementing convolutional neural networks, and I worked on performing Hardware Verification.

Detailed achievements:

- Testing;
 - writing test-benches for the hardware designs
 - automating testing through Caffe Framework and C++ scripts
- Debugging;
 - debugging hardware using Vivado Design Tools
 - helping development team identify design issues
- Development;
 - designed a method for caching input shape by breaking it into blocks, reducing the on-chip memory usage
 - developed software for the CPU on the dev-board to interface with the FPGA's functions
 - worked on hardware design optimisations (Verilog)

Internet Design Team Engineer, **July,2016–Sept,2016**
BT TSO, Ipswich, UK.

I was part of the Internet Design Team at BT TSO, who are in charge of the internet peering platform. My role was to support operation of the platform and involved working alongside the test team as well as customers and other clients.

Detailed achievements:

- Operations;
 - involved in discussions about new proposed network design
 - talked with vendors (Juniper Networks and Polatis) about additions of new equipment to the network
- Software;
 - used SNMP requests from existing management network to map router connections within the network
 - created front-end software to display network connections
- Testing;
 - supported the test team with verifying new equipment's functionality
 - wrote software to automate testing with new hardware connections
- Security;
 - designed a testing as well as deployment method for a new device in the network

Project Experience

Imperial CubeSat Project, **2016–present**
ICSEDS

(IC Students for the Exploration and Development of Space).

I previously lead the Imperial CubeSat with ICSEDS, and am now a member. The purpose is design a CubeSat for use with the COSPAS-SARSAT network (search and rescue). We are working towards a proposal for ESA's FYS programme, and have been working on design for a deployable antenna.

Engine Design Project, **2015–2017**
ICSEDS

(IC Students for the Exploration and Development of Space).

I worked on a telemetry and control system for the EDP project with ICSEDS.

Second Year Project, **2016–2017**
Imperial College London.

For my second year project I worked on a device to assist with communication for deaf-blind people. The device used a single braille cell on a glove which could transfer characters to and from Bluetooth devices. I was able to develop skills in embedded design for Bluetooth devices.

Other Experience

Industrial Liason Officer, ICSEDS. **Oct,2017–present**

Projects Officer, ICSEDS. **Oct,2016–Oct,2017**

Tutor, Imperial EEE Department. **Oct,2016–June,2017**

Member of Hackney Youth Music Forum, **May,2015–present**
Hackney Music Service.

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| Engineering Society President, <i>The Latymer School.</i> | Sept,2014–June,2015 |
| Tutor, <i>Excellence in Education.</i> | July,2014–Sept,2015 |
| Volunteer, <i>Stoke Newington East Reservoir Community Garden.</i> | Sept,2013–Aug,2014 |
| The NCS Challenge, <i>NCS.</i> | Aug,2013–Sept,2013 |

Skills

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| ○ C/C++ | Intermediate |
| ○ Python | Intermediate |
| ○ Verilog | Intermediate |
| ○ Bash | Intermediate |
| ○ Web Design (React, CSS, HTML) | Beginner |
| ○ Javascript | Beginner |
| ○ Vivado Design Tools | Beginner |
| ○ Quartus | Beginner |

Awards

- On Imperial's EEE Department Dean's list for being in top 10% of year group (second year)
- On Imperial's EEE Department Dean's list for being in top 10% of year group (first year)
- IET Diamond Jubilee Scholarship (3 years in a row)
- Whillock Prize for Mechanics(Latymer School award for student with highest UMS in mechanics modules)
- International 4x4 in schools challenge Best Rookie Class Award
- UK Senior Mathematical Challenge 2014 Silver
- Industrial cadet level 1 bronze
- DofE Silver

Interests

I am a musician and participate in a lot of musical groups in my university as well as around London. I play guitar for the gospel choir as well as for a jazz group at my university. I also play guitar with my borough's jazz group, the hackney creative jazz ensemble. I am also heavily involved in ICSEDS, a student society for projects relating to space and participate in their various projects. I also write music reviews and articles for the student paper - Felix.