

# Oliver Copleston

I'm passionate for Technology, and have great interest for current industry trends and development. I enjoy solving complex problems and also enjoy roles where I can focus on the big picture. I like developing new skills and I'm looking for experience in an environment where I can put a wide range of skills to use.

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## Key Skills

- Java, Python, MATLAB, SQL, C
- Microcontroller programming, electronics
- Some HTML/CSS and JavaScript
- Leadership
- UX
- Creative thinking
- Problem solving

## Interests and Hobbies

- Microcontrollers and Electronics
- Clean code
- Graphic Design
- DJing, Radio and Music
- Entrepreneurial goals
- Computer Science Society

## Work and Experience

### **Plymouth NHS: Desktop and Networking Support Assistant (2011)**

Network management, patching network switches, and producing reports using Word and Excel - Identifying business and technology needs. Several of these recommendations were implemented by management for use in the hospital and clinics around Plymouth.

### **Balance for Business (2014)**

Digitisation of paper client information into a searchable database.

### **Mark Hold & Co (2014)**

Writing Visual Basic scripts to compile a database of driving distances and costs of travelling client premises.

### **Mentor (2012 - present)**

Consulting individual and groups of students, addressing their current problems and academic needs.

### **STEM Ambassador (2016 - present)**

I will be conducting robotics and Raspberry Pi workshops in schools and have represented the University at numerous open days.

### **Coffee Shop Manager (2012 - 2014)**

Manager of a fully student-run coffee shop during secondary school. Developing my understanding in business needs and accounting.

## Education

### **Plymstock School (2008 - 2015)**

- Secondary Education and Sixth Form
- **A-Levels:** Maths, Physics and ICT (B,B,A)

### **Cardiff University (2015 - present)**

- Bachelors Degree in Computer Science (With a year in industry)
- **All** module results to date are at least a first

References available upon request



# UNIVERSITY

Module	Skills	Projects	Link
<b>Computational Thinking</b>	<ul style="list-style-type: none"> <li>Python</li> <li>Git</li> </ul>	Four week Python group-project constructing a text-based RPG game.	
<b>Problem solving with Python</b>	<ul style="list-style-type: none"> <li>Matplotlib</li> </ul>	Created visual comparisons for different methods of sailing competition scoring.	
<b>Web Applications</b>	<ul style="list-style-type: none"> <li>HTML/CSS</li> <li>JavaScript</li> <li>PHP</li> </ul>	Created an e-commerce website using PHP, complete with payment system and validation.	
<b>Professional Skills</b>	<ul style="list-style-type: none"> <li>LaTeX</li> </ul>	Created professional type-set reports using LaTeX	
<b>Developing Quality Software</b>	<ul style="list-style-type: none"> <li>Tkinter (Python GUI)</li> </ul>	I was the team leader of a project in which we were required to construct a teaching and testing system for mathematics.	
<b>Architecture and Operating Systems</b>	<ul style="list-style-type: none"> <li>Understanding system architecture</li> <li>80x86 Assembly Language</li> </ul>	I constructed a robust calculator in Microsoft Assembly language which runs in the windows terminal.	
<b>Maths for Computer Science</b>	<ul style="list-style-type: none"> <li>Encryption</li> <li>Document matching and searching</li> <li>Numerical techniques</li> <li>Indexing and searching</li> </ul>	I implemented a simple searching program in Python which used an Inverted Index to rapidly find files related to a search query.	
<b>Object Oriented Java Programming</b>	<ul style="list-style-type: none"> <li>Java</li> <li>Object Oriented Programming</li> </ul>	I created an address book and Sudoku-like game for my first project in Java.	
Year average: 83%			
<b>Database Systems</b>	<ul style="list-style-type: none"> <li>SQL</li> <li>PL/SQL</li> </ul>	Created PL/SQL reports for a mock stock-control system - similar to how receipts are printed.	
<b>Computational Mathematics</b>	<ul style="list-style-type: none"> <li>Linear Algebra</li> <li>Geometric Computing</li> <li>Discrete Probability Theory</li> <li>MATLAB</li> </ul>	I created a geometric sandbox in MATLAB which allows the user to place shapes and lines, and calculate where they intersect. I learned the basics of rendering shapes on a canvas and numerical methods to find out about the interaction between shapes.	
<b>Scientific Computing</b>	<ul style="list-style-type: none"> <li>Digital Signal Processing</li> <li>Image Processing</li> <li>Fourier Transform</li> <li>Numerical Analysis</li> </ul>	I am constructing a audio player and visualiser in MATLAB which plays music and displays a live audio spectrum visualiser. This is linked with an arduino which will use a string of LEDs as a spectrometer.	
<b>Communication Networks and Pervasive Computing</b>	<ul style="list-style-type: none"> <li>Network programming</li> <li>Packet capture</li> <li>Network infrastructure</li> </ul>	Given a file of captured network traffic, I used wireshark to identify a malware attack that occurred and produce a report detailing the steps that took place for a worm to infect another machine on a network.	
<b>Algorithms and Data Structures</b>	<ul style="list-style-type: none"> <li>C / C++</li> <li>Fundamental algorithms</li> </ul>	<p>I implemented counting sort and insertion sort in C and in Java to conduct an investigation into the execution time of both algorithms for varying quantities of data, as well as finding out how a higher level language effects execution time.</p> <p>In a separate project, I implemented a program for perfect hashing. It's usage is only useful theoretically, but it demonstrates the best case scenario of hashing.</p>	
<b>Group Project</b>	<ul style="list-style-type: none"> <li>Leadership</li> <li>Team Management</li> <li>JQuery</li> <li>Django</li> </ul>	I am the team leader and lead developer in a project constructing a search platform for scientific papers.	
<b>Human Computer Interaction</b>	<ul style="list-style-type: none"> <li>User Experience (UX)</li> <li>Understanding platform guidelines</li> </ul>	I practised developing personas and interfaces for an app of my own creation, as well as conducting heuristic evaluations on other interface designs.	
<b>Introduction to Theory of Computation</b>	<ul style="list-style-type: none"> <li>Automata theory</li> <li>Functional Programming</li> </ul>	I wrote a compiler parser in Python which could verify if a string was in a language that I defined in a custom encoding.	
<b>Object Oriented Applications</b>	<ul style="list-style-type: none"> <li>Object Oriented Application design</li> <li>UML</li> <li>Concurrency</li> <li>Design Patterns</li> </ul>	I used design patterns and object oriented programming to create an interactive card game.	
Working at average: 82%			

Year 1

Year 2