

## Education

SEP 2016  
JUL 2019

### BSc Computer Science — *University of Birmingham*

Currently in third and final year of university. Achieved a 92% overall for first year and an 88% overall for second year. Consistently achieved the **single best grades** out of my cohort.

**Modules include:** Artificial Intelligence, C/C++, Computational Vision, Computer Security, Computer Architecture, Functional Programming, Graphics, Models of Computation, Professional Computing, and Software Engineering.

## Experience

JUN 2018  
OCT 2018

### Software Engineering Intern — *Arm, Manchester*

Worked as a software engineering intern at Arm on the HPC compilers team. Extensive work with build systems, compilers, and continuous integration.

SEP 2017  
PRESENT

### Computer Science Teaching Associate — *University of Birmingham*

Teaching CS undergraduates robotics and Java programming through tutorials and demonstration sessions.

JUL 2017  
PRESENT

### Computer Science Ambassador — *University of Birmingham*

Representing the the School of Computer Science as an ambassador. The role involves hosting open days and conferences in addition to recruiting new students.

## Skills

Languages

**Proficient** — Java, Python, C/C++, Haskell, Bash  
**Familiar** — SQL, Groovy, OCaml, MIPS assembly  
**Working Knowledge** — MATLAB

**Web** — HTML, CSS, Javascript, Bootstrap

Technologies

**Tools** — Ansible, Clang, Conan, Docker, GCC/G++  
**Continuous Integration/Deployment** — Artifactory, GoCD, Jenkins  
**Libraries/Platforms** — Flask, leJOS, NLTK, PyCrypto, Swing/AWT, TFLearn, Wordpress  
**Revision Control** — Git, Subversion  
**Linux/UNIX** — Scripting, software configuration, system administration, and maintenance

## Awards

Winner of University of Birmingham's *Best Computer Science Student* award for 2017 (first year).  
Winner of University of Birmingham's *Best Computer Science Student* award for 2018 (second year).

2017 winner of the *Tazmmal Husein Memorial Award* for student excellence in computing. This is awarded to the best first year computer science student out of Birmingham's top 3 universities.

## Projects

**Personal Blog** — Keep a technical blog discussing and explaining topics in computer science at [www.joechrisellis.com/blog](http://www.joechrisellis.com/blog).

**Open Source Contributions** — Contributed to the conan package manager by both submitting pull requests and reporting issues.

**Class Allocation Project** — Developed software for a local school which computes a near-optimal class allocation using genetic algorithms and related machine learning techniques. The software parses student preferences to obtain a description of the year group's social dynamic. A genetic algorithm is applied to this description to find an allocation of students to classes that maximises overall happiness. The software saves 7 hours of staff time per term and consists of a Java client-side application and a Python server.

**Second Year Team Project (MOOD)** — Successfully developed a three-dimensional first-person shooter game using a raycaster graphics engine titled 'MOOD' alongside a team of five other students. The game has an old school look-and-feel, bearing stylistic resemblance to the early 1990s hits of the genre such as Quake, DOOM, and in particular, Wolfenstein 3D. The game took 11 weeks to complete.

**First Year Robotics Project** — Successfully developed an autonomous warehouse using 3 Lego NXT robots programmed with the Java leJOS library. Robots were tasked with simultaneously picking and packing virtual stock in a physical enclosure representing a warehouse. Elected as manager for a team of 7 programmers. Personal accomplishments include team leadership alongside successful implementation of the Bluetooth network stack, motion control system, and route execution algorithm. Produced an elegant, functional system which achieved full marks.

**Graphing Calculator Project** — Created a robust software graphing solution using Java's Swing library which now sees active use by the South Wolds Academy mathematics department. Involved the independent analysis, design, implementation, and testing of a software system to solve a real problem specified by a client. Achieved A\* grade.

More projects are available at [www.joechrisellis.com/projects](http://www.joechrisellis.com/projects) and [www.github.com/joechrisellis](http://www.github.com/joechrisellis).