Kelsey McKenna

Birmingham, B153AS   07725465713   KelseyJMcKenna@gmail.com

I'm a fanatic of maths and computer science. I love exploring and learning everything there is to know about these subjects. Now I'm in the final year of my course, and I'm looking forward to starting my career after university.

Education and Qualifications

University of Birmingham BSc Maths and Computer Science with Ind. Year [09/2014 – 07/2018]

Year 4 – In Progress
Real and Complex Analysis, Graph Theory, Algebra and Combinatorics 2, Compilers and Languages, Final Year Project, Principles of Programming Languages.

Year 3 – Cognito iQ (see experience section)

Year 2 - First Class (96% average)

Linear Algebra	100%	Software System Components	98%
Probability and Statistics	100%	Models of Computation	97%
Multivariable and Vector Analysis	97%	Team Project	95%
Algebra and Combinatorics	95%	Professional Computing	89%

Year 1 - First Class (95% average)

Real Analysis and the Calculus	95%	Software Workshop (Java)	98%
Mechanics	98%	Foundations of CS (Joint First)	97%
Vectors, Geometry, and Linear Algebra	88%	Software Engineering	94%

Courses
- Employability and Professional Development Skills (Personal Skills Award) – 1st
- Presenting Yourself with Impact (Personal Skills Award) – 1st

Dalriada School, Ballymoney, Northern Ireland [09/2007 – 05/2014]

- **A Level** Mathematics (A*) | **A Level** Physics (A*) | **A Level** Computing (A*) | **AS Level** Music (A)
- 3 GCSE A and 7 GCSE A* grades - (including Maths and English)

Experience

Research Intern, School of Computer Science (University of Birmingham) [07/2017 – 09/2017]

Working on a library for distributed computing – which is essentially an alternative to Java's RMI (Remote Method Invocation). My work involved integrating the project with sample applications distributed across a cluster of worker nodes, benchmarking and identifying bottlenecks, and preparing the library for consumer use.

Middleware Developer (Cognito iQ) [07/2016 - 06/2017]

I worked in an agile middleware team on the largest ePOD contract in Europe. Daily activities included development and use of micro-services, AWS, REST architecture, IntelliJ, Maven, CQRS, Cassandra, AMQP (RabbitMQ), Docker, Cucumber/Gherkin testing, Jenkins. Our team was proficient in employing the scrum methodology, JIRA, pair programming, Spring framework, Circuit breaker technology, etc. I independently developed one of the microservices deployed in AWS.

Demonstrator, School of Computer Science (University of Birmingham) [10/2015 – 03/2016]

First year computer science students can come to optional lab sessions where demonstrators can help them if they are having any problems. Being a demonstrator requires a deep understanding of the first year course content, as well as good communication skills so that the student feels comfortable and improves their ability, without feeling patronised. I also wrote code to test the students' assignments, which was integrated with a bespoke testing framework written in OCaml.

Mathematics PASS Leader (University of Birmingham) [10/2015 – 03/2016]

I am interested in the PASS (Peer Assisted Study Sessions) scheme because it allows me to help younger students with their work, their mathematical ability, and any other problems they may have. The PASS leaders create a plan for each session, including ice-breakers and activities to help the students interact with each other more. This position involves teamwork with other PASS leaders to organise the sessions, and requires strong communication and interpersonal skills.

Freelance Musician [2009 – 2016]

I have performed for theatre groups, fundraising/charity events, a wedding reception, Christmas events and regional sports awards evenings. Time management, organisational skills, and the ability to work in high-pressure environments were vital to manage events, practice, and studying.

Student Representative, School of Computer Science (University of Birmingham) [10/2014-05/2015]

At staff student committee meetings, I would represent the views and concerns of students in my year.

Private Music Tutor (Self-Employed) [02/2011 – 12/2013]

I provided weekly guitar/bass sessions with my students. This involved one-on-one communication, and giving (and receiving) constructive criticism. By planning for these sessions and managing my time carefully, I was able to run these sessions and continue my studies effectively.

Competition Organiser (World Cube Association) [11/2012 – 04/13]

I planned and organised the first Rubik's cube competition in Northern Ireland. After contacting the UK delegate for the WCA, I organised the venue and schedule, and communicated with competitors from different countries through email and an online forum. I also provided competitors with information about travel, local accommodation, and tourist attractions, since many of the competitors had never been to Northern Ireland.

Technical Skills

- **Languages**   Java, Scala, OCaml, Haskell, Python, SQL, LaTeX, Markdown.
- **Technologies**   AWS, Spring Boot, Cassandra, RabbitMQ, Maven, Docker, Jenkins.
- **Environments**   IntelliJ, Vim.

Honours, Awards & Events

- **Heslop Memorial Prize**   This prize at the bequest by the late Thomas Pretious Heslop MD is awarded annually to an outstanding candidate in the 2nd year of a degree programme.
- **IBM Team Project Prize**   Awarded for developing a MIPS (R3000) processor emulator and visualisation tool, judged as the best project by IBM.
- **Mathematics**   Joint-first-place CCEA candidate for A Level Mathematics.

  Mathematics Excellence Award (£1500 scholarship into University of Birmingham).

  Third place, Schools Mathematics Competition, Queen's University Belfast.
- **Media**   First-place CCEA candidate for GCSE Moving Image Arts.
- **Computing**   Top 4 candidate for AQA A Level Computing.
- **Speedcubing**   Irish national records: Rubik's cube 12.59 seconds average, Rubik's cube

  blindfolded 1:14.78, Multiple blindfolded 9/10 50:44.
- **VC Lunch**   Nominated as an outstanding student to attend a lunch with Vice Chancellor Sir

  David Eastwood to discuss ideas for the University of Birmingham.

Other Qualifications

Grade 8 Electric Guitar (RSL), Grade 8 Bass Guitar (RSL), Grade 7 Piano (Trinity Guildhall), Grade 6 Violin (ABRSM), Grade 5 Theory of Music (ABRSM).