

Edward Celella

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PROFILE

Having always enjoyed the process of problem-solving, my choice to study Computer Science over the past four years has been a natural fit. By undertaking both a Bachelors and Masters in the subject, I have been exposed to a variety of fields, including data analysis, algorithm optimisation, and cloud computing. Now my studies have concluded, I wish to apply the skills I have garnered to real-world problems.

EDUCATION

Advanced Computer Science MSc

University of Birmingham, School of Computer Science

November 2020

Distinction (80%)

Modules including : Advanced Functional Programming, Compilers and Languages (Extended), Cryptography (Extended), Evaluation Methods and Statistics, Intelligent Data Analysis (Extended), Machine Learning (Extended), Nature-Inspired Search and Optimisation (Extended), Neural Computation (Extended). *(Extended modules awarded for additional projects)*

Computer Science BSc

Nottingham Trent University, School of Science and Technology

July 2019

Upper Second Class (69%)

Modules including : Artificial Intelligence, Advanced Analysis and Design, Advanced Software Engineering, Information and Database Engineering, Applied Mathematics and Graphics, Software Design and Implementation, Systems Software.

A-Levels and GCSEs

Bishop Walsh Catholic School, Birmingham UK

A-Levels (A-D): Computer Science, Mathematics, Physics, Biology (AS), Extended Project. 14 GCSE qualifications A*-C including: Mathematics, English Language, Physics, Biology, and Chemistry.*

TECHNICAL SKILLS

Languages: Python, C++, Java, C#, R, Haskell, JavaScript, HTML, and CSS.

Database: MySQL, and SQLite.

Tools/Framework/Libraries: Tensorflow, Keras, Pytorch, OpenCV, Flask, Git, Mercurial, Jenkins, Boost, SciPy, Bootstrap, QT, GNU, Linux, Docker.

EXPERIENCE

Nottingham Trent University : Science and Technology Mentor / Teaching Assistant Sep 18 - Jun 19

During my final year at Nottingham Trent University, as one of the stronger students on the course, I was given the position of student mentor. This role involved supporting lecturers during lab sessions, helping first-year students, and running my own teaching sessions on a bi-weekly basis.

Nottingham Trent University : Research Assistant Jun 18 - Sep 18

Over the summer of 2018, I was offered the position of research assistant at my University. During the summer, I worked alongside my lecturers, analysing the effect of compression methods on object recognition in point clouds.

Scorchsoft : Intern

Aug 15

During the summer of 2015, I interned at the company Scorchsoft, learning about web development. Here I was taught the basics of HTML, CSS, Javascript, and PHP. These are languages I later carried forward in my own time.

ADDITIONAL ACTIVITIES

- Participation in several hackathons such as Hack24 and App Jam (First place).
- Member of the Computer Science Society at the University of Birmingham.
- Member of DevSoc at Nottingham Trent University and member of the society council in my final year.

PROJECTS

Commercial Website

Feb 2021

Drawing Room Interiors

This month I updated and added to a given HTML and CSS template, whilst adding backend PHP code to make dynamic updates to the website. In addition to this, I set up a continuous-integration server to ensure future updates to the website are error-free.

- **Languages/Libraries:** HTML, CSS, JavaScript, PHP, and XML.

Time Series Forecasting Using Transformers

Sep 2020

University of Birmingham

Over the summer of 2020, I undertook a research project for my Master's degree. This project focused on the application of attention mechanisms to time-series analysis, which I achieved by altering the architecture of Transformer networks.

- **Languages/Libraries:** Python 3, Pytorch, Numpy, Pandas, and Matplot.

Stock Market Prediction Using Newspaper Sentiment App

April 2019

Nottingham Trent University

For my Bachelor's dissertation, I developed a system that used the sentiment of newspaper articles about a company to forecast its future stock price. The project used news and stock market APIs to retrieve real-time stories and data, which were then fed into trained ML models such as an LSTM network. A front end web app was produced using Flask to display the predictions.

- **Languages/Libraries:** Python 3, HTML, CSS3, Flask, Pandas, Numpy, Tensorflow, Keras, and Beautiful Soup.

Intelligent Time Table System

March 2019

Nottingham Trent University

During the final year of my Bachelor's degree, I worked in a team of three to produce an intelligent timetabling system for my University. The project was built using the MVC architecture and provided both a web-page, plus a local application interface for user interaction. My role within the team was to produce the timetabling algorithm, which required zero collisions whilst providing each booking with the correct resources. I also played a key role in developing the front end of the system.

- **Languages/Libraries:** C#, SQL, HTML, CSS3, JavaScript, and Bootstrap.

Music Streaming Social Media Application

March 2018

Nottingham Trent University

During my Bachelors, whilst working in a team of two, I was set the challenge of producing a music streaming application. As the team was small, I participated in all aspects of development. The GUI for both the client and server was created using Java Swing, with the final product containing a variety of features including a friends list, news feed, messaging service, and the ability to upload and play music.

- **Languages/Libraries:** Java, Swing, and SQL.

Other Projects - *(Projects available to view on my website)*

- Enhancing MRI Images Using Deep Learning *(Python3 and Pytorch)*.
- Nature-Inspired Solutions to the Travelling Salesman Problem *(Python 3)*.
- Genetic Programming for Time-Series Forecasting *(Python 3)*.
- Implementation of AVL Binary Search Tree *(C++)*.

PART-TIME WORK

- *Brewhouse and Kitchen : Front of House and Gin Specialist : Currently employed*
- *One Stop : Customer Service Assistant/Shift Manager : 2015 - 2016*