Edward Celella

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PROFILE

Having recently graduated with an MSc in Advanced Computer Science, I am currently seeking employment in the field of data science. Over the past year, I have specialised in the field of machine learning, specifically applying the techniques to the subject of economics and finance. I now wish to utilise these skills within the industry.

EDUCATION

Advanced Computer Science MSc
University of Birmingham, School of Computer Science
September 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)
14 GCSE qualifications A^*-C including : Maths, 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 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. In my third year, I was also a member of the society council.
- Attended IBMs lectures and workshop on quantum computing.

PROJECTS

Time Series Forecasting Using Transformers   Sep 2020
University of Birmingham

Over the summer of 2020, I was required to undertake a research project for my master's degree. This project focused on the application of attention mechanisms, which are widely used in the field of natural language processing, to time-series analysis. Specifically, for this project, I implemented and altered the architecture of Transformer networks for the application of stock price forecasting.

- **Languages/Libraries:** Python3, Pytorch, Numpy, Pandas, and Matplot.

Genetic Programming for Time-Series Forecasting   March 2020
University of Birmingham

This project applies a tree-based genetic programming system to the task of stock market forecasting. The goal of this project, undertaken over a 2 week period for my master's degree, was to prove the capabilities of genetic programming when applied to a complex task. The entire algorithm was built in base python3.

- **Languages/Libraries:** Python3, Docker.

Stock Market Prediction Using Newspaper Sentiment   April 2019
Nottingham Trent University

For my bachelor's dissertation, I developed a system which used the sentiment of newspaper articles about a company to forecast its future stock price. The project retrieved newspaper articles of a company from the internet and used the Stanford NLP library to calculate sentiment. A Naive Bayes classifier was then used to extract the topic from the news article. These metrics, along with the daily stock price data, were fed into an LSTM network which produced a forecast future price movements. A front end for the system was developed using HTML, CSS and Flask.

- **Languages/Libraries:** Python3, HTML, CSS3, Flask, Pandas, Numpy, Tensorflow, Keras, Beautiful Soup.

Intelligent Time Table System   March 2019
Nottingham Trent University

During my final year of my bachelor's degree, I worked in a team of three to produce an intelligent timetabling system for the University. The project was built using the MVC architecture, and provided both a web-page and application interface for user interaction. My role within the team was to produce the algorithm to timetable lectures and labs without any collisions, whilst providing each booking with the correct resources required, this was accomplished through an evolutionary algorithm. I also played a key role in developing the front end of the system.

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

Other Projects

- Enhancing MRI Images Using Deep Learning *(Python3 and Pytorch)*.
- A Review of Algorithmic Applications to Stock Trading Methods.
- Nature-Inspired Solutions to the Travelling Salesman Problem *(Python 3)*.
- Music Streaming Social Media Application *(Java)*.
- Implementation of AVL Binary Search Tree *(C++)*.

PART-TIME WORK

- *Brewhouse and Kitchen : Front of House and Gin Specialist : Currently employed*
Member of the bar staff team, and gin specialist running weekly tasting sessions.
- *One Stop : Customer Service Assistant/Shift Manager : 2015 - 2016*
Began work as a sales assistant and promoted to shift manager within 6 months of employment.