

Diarmuid Brady

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Personal Profile

Second year Data Science student striving for a first-class honors degree and currently averaging 85% across all modules in my first year. Strong problem solving skills with a keen interest in programming and working with data. Enjoy taking on new projects and learning new skills. Interest in web development.

I am an active participant and member of the DCU Rock Climbing Club and Committee where I enjoy socialising and taking responsibility for exploring novel club events and collaborating with other members to bring them to fruition.

Languages: Python, Java, MySQL and R, Shell Script. Working knowledge of HTML and CSS.

Tech Stack: Experience with Git, MySQL Workbench, RStudio, Pandas, Mathplotlib, Seaborn, Sklearn, OpenRefine, Excel, Flask.

Education

Dublin City University
B.Sc in Data Science

2019 - Present

Currently studying modules including Programming, Machine Learning, Databases and Data Warehousing, Data Mining, Data Processing and Visualisation, Calculus and Statistics.

First Year: Placed third in my year with an average of 85%.

Second Year 1st Semester: Average 76% across all modules

Second Year Data Analysis Project (2 Part):

Using the Handwritten Digit Set, created a classification model using K-Nearest Neighbours. The goal of the project was to optimize the model to both improve accuracy and reduce runtime. This required a deep dive of analysis into what defined each digit we inspected and the similarities and contrasts found between digits. With the use of methods such as Principal Component Analysis and Boxing I achieved an accuracy rate of 97.25% and reduced the runtime from an initial 18 minutes down to 9 seconds.

Next as part of a group, we had to randomly generate 2's and 4's which closely resembled the real digits. This was done by using vectors (defined by parameters; start point, length, angle and width) which acted as the individual strokes of the digit. The KNN model was used again except this time for the random digits. We examined the distribution of each parameter and from there made further optimizations to the model. In the end, an accuracy rate of 95.75% was achieved with a runtime of 1 minute.

Second year Data Warehouse Project:

Tasked with identifying an industry and defining two distinct problems. I rigorously researched how best to design and build a Data Warehouse to be used to solve these two specific problems using OLAP queries which would perform in an efficient and timely manner.

Tech Used: Microsoft SQL Management Server, Python, Pandas, Colab Notebooks.

Second Year Data Mining Classification Project:

I predicted if a passenger survived or not on the Titanic dataset. I thoroughly explored and analysed all aspects of the dataset to gain insight into the nature of different attributes. I investigated several types of prediction algorithms and chose the one which was most suitable for predicting survival rate of a passenger. I evaluated the results by assessing the predictive accuracy of the model and reflected on what improvements could be made.

Tech Used: Python, Pandas, Numpy, Mathplotlib, Seaborn, Sklearn

Second Year Data Cleaning Project:

Tasked with combining a series of datasets of different file types into one unified dataset. This project required me to map out a systematic approach to tackling this large, complex problem. I first had to clean and process each file individually and pay sharp attention when searching for a variety of errors hidden in each dataset. Finally I combined them ensuring the finished dataset was prepared appropriately for data analysis such that insights could be gained in the most efficient manner.

Tech Used: Python, Pandas, Excel, Colab Notebooks, Google Maps

Work Experience

Programming Tutor at Dublin City University

September 2020 - Present

- I tutor modules in Computer Programming (Python), Databases (MySQL) and Web Design (HTML and CSS) for both first and second year students.
- I assist students in working through challenges by using a systematic approach of problem solving.
- I attempt to instill quality programming practices by discussing different coding conventions and I encourage students to strive for simplicity in their programs as this often leads to greatest efficiency, readability and usability.

General Operative at Floods Precast

June 2020 - September 2020

- Prepared wood fixtures to be placed into concrete beds. This required me to maintain stark attention to detail at all times and to follow strict safety procedures when operating woodworking tools.
- Trusted with operating large machinery in a safe and responsible manner eg. a gantry for moving necessary materials.
- I took a collaborative and timely approach to my work to ensure weekly production goals were met consistently.

Sales Assistant at Rapture Jack & Jones

Dec 2019 - Jan 2020

- In charge of taking in and packing out large deliveries in time to satisfy customers needs.
- Ensured shop and clothing presentation was maintained at a standard.
- Assisted customers in the process of selecting and purchasing clothing products resulting in the store generating highest sales across the country in its opening weeks.

Grinds teacher

Sept 2019 – Dec 2020

- Provided Leaving Cert grinds to students in the subjects Maths and Design Communication Graphics.
- Taught students the necessary skills to excel in their exams as well as helping them to understand the underlying concepts of the subject.
- Provided a space for students to reach their potential with students improving from barely passing to achieving an honour in their subject.

Camp Leader in Lus Na Gréine Family Resource Centre

June 2019 – July 2019

- Responsible for supervising over 30 children at a time, teaching cooking skills, organising problem solving games and taking charge of other fun learning activities.

General Operative at Dunphy's SuperValu

Jan 2017 – Aug 2018

- In charge of the fresh produce in the Fruit & Veg and Dairy aisles where only the highest quality standards were acceptable.
- Tasked with providing management with weekly reports to ensure I was meeting expectations.
- Trusted with opening the shop and locking up at closing hours.

Awards and Achievements

- Placed 3rd in my course in my first year studying Data Science.
- Recipient of Cnoc Mhuire award for excellence in leaving cert (544 points).
- Attained full attendance in Leaving Cert year 2018-2019 showcasing excellent punctuality.
- Recipient of student mentor award in leaving cert year for mentoring a small group of 1st year students and helping them settle into life at secondary school.
- Participated in the All-Ireland Junior Maths Competition.
- Longford Minor Division 2 Championship Final Winner with Northern Gaels 2017.

Interests and Hobbies

- Strong interest in Hackathons - Attended Hacktoberfest in DCU. Looking to improve coding skills and attend further hackathons in the future.
- Member of Redbrick Society - We have discussed areas such as AWS and machine learning and have had guest speakers from different companies talking about the tech stack they use and how they handle data.
- Actively involved in the Rock Climbing Club in DCU.

- Hobbies include calisthenics, rock climbing, gymnastics as well as reading books and listening to podcasts on topics such as self development, philosophy and psychology.