Matthieu Martin

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Skills Summary

- Proficient with **Python**, **JavaScript**, **Java**, **Haskell** and **SQL**, with some knowledge of C#, C++, C and Golang.
- Familiar with both functional programming and object oriented programming design patterns.
- Good understanding of sorting and searching algorithms, along with a variety of data structures.
- Self-motivated and time efficient learner as demonstrated by the completion of a large number of online certifications outside of the academic year.
- French-English Bilingual.

Projects

PATHFINDING VISUALISATION | PYTHON | SEPTEMBER 2022

- Built a grid of nodes with pygame using my understanding of data structures.
- Created a visualization of the A* and Dijkstra pathfinding algorithms to find the shortest path between two points.
- Allowed the user to generate their own obstacles for the algorithm to navigate.

SELF DRIVING CAR | JAVASCRIPT | AUGUST 2022

- Built a simulation of a small box acting as a car with some real physics (such as friction and collisions) from scratch.
- Created a Neural Network of two layers to act as the 'brain' of the car - after roughly 6 iterations of 1000 cars the car was able to navigate an obstacle course in this simulation.
- Grasped a solid understanding of the fundamentals thanks to building everything from scratch without libraries.

PREMIER LEAGUE ELO ANALYSIS | PYTHON | JULY 2022

- Built an ELO ranking system for the football teams in the Men's English Premier League since 1993 based on a dataset from Kaggle.com using a few packages including Pandas, matplotlib and NumPy.
- Created and annotated graphs that allowed any viewers to draw conclusions from the data – the best periods of the best teams, the best team of all time, how some teams have performed a lot better or worse due to outside factors such as managers departing or arriving etc.
- Conducted basic predictions for the next season using the previously generated data.

Experience

COMPUTING SCIENCE VOLUNTEER TUTOR | HOLYROOD HIGH SCHOOL | AUGUST 2020 – MAY 2021

- Provided additional support to a group of students at National 5 and Higher level studying Computer Science.
- Improved communication skills by providing the students with short lessons about various concepts including Software Development Methodologies, basic data types & structures and a high level overview of how a computer functions.

DATABASE ADMINISTRATOR | BUTTERWORTHS LENSES | AUGUST 2020

- Performed the update and cleaning of thousands of customer records before migrating them to a new and more secure database system, which taught me invaluable lessons about different ways to problem solve and automate tasks.
- Automated record entry on outdated systems using Python's PyAutoGUI library.
- Performed SQL queries to find relevant data in order to generate reports.

Education

MASTER OF INFORMATICS (MINF) | 2021-2026 | UNIVERSITY OF EDINBURGH

- Year 1: Completed courses in Functional Programming & Computer Logic, Object Oriented Programming, Linear Algebra, Calculus, Cognitive Science and Astronomy, achieved a **2:1**.
- Year 2: Will undertake courses in Data Science, Data Structures & Algorithms, Discrete Mathematics & Probability, Computer Systems and Software Engineering Practice.

Achievements, Awards and Certifications

- 5th Place in the University of Edinburgh INF1A Haskell Art Programming Competition with over 450 other entrants.
- Achieved the Caritas Award for Volunteering issued by the Scottish Catholic Education Service.
- Data Scientist: Machine Learning Specialist Career Path | Codecademy | August 2022 | 35 week course
- Learn Data Structures And Algorithms | Codecademy | August 2022 | 40 hour course
- Learn Advanced Python 3 | Codecademy | August 2022 | 8 hour course + 15 intermediate hour course + 25 hour introductory course