

Shuyuan ZHANG

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Education Background:

The University of Edinburgh
BSc Computer Science (Hons)

Sep, 2020 – May, 2024

Academic Experience:

Year	Course Topics	Average
1st	Linear Algebra, Calculus, OOP, Cognitive Science, Functional Programming, Computational Logic, Computer Aided Design	81
2nd	Data Science, Discrete Maths and Probability, Algorithms, Data Structures, Computer Systems, Software Engineering, Ethics, Reasoning and Agents	79
3rd	Machine Learning, Mobile Robotics, Computer Communications / and Network, Software Engineering, Ethics, NLP, Computer Security	

Report, Students' Learning Behaviour Reflected by Self-reported Confidence Level

Foundations of Data Science

March, 2022 – April, 2022

- Data Analysis
Investigated data provided by EEdi, an online student learning platform, to analyse the correlation between students' confidence and correctness and the mutual impact on each other of these two metrics. Certain Data Science techniques were used, including Hypothesis Testing, Linear / Logistic Regression and K-NN Clustering.
 - Data Visualization
Used various types of graphs to visualize the key findings, using libraries including matplotlib, seaborn and pandas.
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Events Organisation Software

Software Engineering and Professional Practice

March, 2022 – Apr, 2022

- Java and Team Leading
Implemented and tested a software system developed given specifications and use cases, using the Model-view-controller pattern. Led and guided the team during the coursework, allocated team members' tasks according to individual strengths.
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Travelling Salesman Problem

Introduction to Algorithms and Data Structures

March, 2022

- Simulated Annealing
Implemented Simulated Annealing to tackle the famous Travelling Salesman Problem. Modified the algorithm to make it work with other heuristics including Swap, Reverse / 2-Opt. Test results showed that it improved the stability of the originally implemented Simulated Annealing algorithm.
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Work and Internship Experience:

Software Engineer, *Edinburgh University Formula Student* Oct, 2022 - Now

- Member of the Software Infrastructure sub-team under Software, Driverless Vehicle, EUFS;
- Maintain and develop tools for the society and other sub-teams
Improved and maintained the Command Line Interface (eufs_cli) used by the society. Worked with ROS nodes (ROS 2) in the society's repositories.

Algorithm Engineer Intern, *Wuhan Tianyu Information Industry* Summer, 2021

Supervisor: Pengcheng Fang Mentor: Xiaofeng Yue

- Image Processing: Using OpenCV-python to improve QR code detection; Utilising ArUco code in a Smart Classroom System;
- Computer Vision: Augmented and cleaned large datasets to train YOLOv5 models.

Extracurricular Experience:

Trainee, *Tencent Games Open Course* Summer, 2022

- Unreal Engine
Topics including rendering, communications and network, physics, AI, animation.

Hackathon, *Hack The Burgh VIII* Feb, 2022

- In-Store Navigation Demo (Unity)
Chose the challenge released by one of the sponsors M&S to help customers quickly locate items in the store. Used Unity with C# scripts to develop a prototype, with frontend UI and backend functionalities interacting with a local database.

Student Representative, *The University of Edinburgh* Oct, 2021 – May, 2022

- Programme Representative BSc (Hons) Computer Science
Gathered feedback from UG2 students and communicated them to the school in weekly representative meetings.

Editor, *DataFun Talk* Sep, 2021

- NLP: Understanding Text Content based on Pre-trained Models
Edited and published an article for DataFun, in the NLP fields based on a DataFun Talk brought by a Tencent NLP Engineer.

Skill	Domain	Environment
Python	Data Science	Anaconda, Windows
Python	Command Line Interface	Ubuntu
Python	Computer Vision	Windows, Ubuntu
Latex	Report Writing	Overleaf
Java	Object-oriented Programming	Windows
C#	Scripting in Unity	Windows, Android
Haskell	Functional Programming	Windows, WSL
Blender	3D Hard Surface Modelling	Windows
AutoCAD/Sketchup	Architecture Modelling	Windows
Vectornator	Graphic Design	iPad OS