

AMAAN AKRAM

YEAR 4 COMPUTER SCIENCE

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EDUCATION

Heriot-Watt University
Edinburgh
BSc Computer Science (Software Engineering)
On track for 1:1

Sep 2017 - Current

Auchmuty High school
Glenrothes
Higher: 2A,4B,2C
National 5: 3A,2B,2C

Aug 2011 – May 2017

PROJECTS

Iglu

A futuristic smart home progressive web application (PWA). Created with a **Go Lang** based web framework; **go-macaron** a relational **XORM** database, **SQL-lite** and basic front-end technologies; **HTML, CSS & bootstrap**. Find out more here: <https://nacdlow.com/>

Face Mask Detection on the Edge

Final year project, implementing a real-time solution to automate the detection of if a person is wearing a mask or not. This project aims to help fight the spread of the COVID-19 pandemic. Created using **Python** libraries such as **OpenVINO** and **PyTorch**. The system was deployed on an **Intel NCS 2** connected to a **RPi**.

Biologically inspired computation (experiment)

Implemented a neural network from scratch in **Python** that was trained using the particle swarm optimization algorithm (PSO). I had to try and evaluate the effectiveness of training a neural network with the PSO algorithm.

Spellchecker (experiment)

A Spellchecker created in **Java** that uses **linked lists** to store words and another implementation that uses **hash tables**. In my data structures course, I had to compare the speed and efficiency of both implementations

CrepCheck

Fully functioning e-commerce website for buying shoes. created using traditional web technologies; **JSP** and **SQL**

Film Search

A simple website to search up a film to learn more about it. Created using the **OMDB API** and **jQuery**

Pass Man

Simple password manager application with very mild encryption. Created using MIT app inventor.

MAIN MODULES

Software Development 1,2 & 3

Year 1

learned and develop fundamental skills in programming with an overall focus of object-oriented programming.

Data Structures and Algorithms

Year 2

Increased knowledge of programming with more focus in efficiency, speed of traditional structures and algorithms

Programming Languages

Gained knowledge of different languages and their use cases. Learned how to program in **SML**, **Python** and **Prolog**.

Software Engineering

Year 2

Full large-scale group project. Using technologies such as **Git** version control, **node.js**, **Go-Macaron**, **SQL-lite** and **XORM**. We as a group followed the Kanban software development methodology.

Artificial Intelligence and Intelligent agents

Introduction to AI and Intelligent Agents. Mainly focused on PDDL planning and classical AI algorithms

Data Communications & Networking

Learned about the structure of the internet. A greater understanding of the 7 layers of the OSI model.

- **Biologically Inspired computing**
- **Data Mining & Machine Learning**
- **Computer Network Security**
- **Advanced Network Security**
- **Big Data Management**

Year 4 (current)

EMPLOYMENT

Amazon

Jul 2019 – Sep 2019 & Jun 2020 – Jul 2020

Fulfilment Associate

Summer job worked as a warehouse operative. Gained skills in time management and punctuality as Amazon have strict policies in terms of meeting targets and quantity idle time. Gained team-building skills as the whole operation is based on a group/team system. Enlightened by the importance of user design within the workforce, and lack of update for enterprise-based systems.

Duncan's Hardware

Mar 2013 – Present

Retail

Small family hardware store based in Leven. Very varied tasks ranging from stacking shelves to repairing phones and watches to serving customers. Gained communication skills from interacting with customers on regular basis. Problem-solving is also a big aspect.

TECHNICAL SKILLS

SOFTWARE EXPERIENCE

- | | |
|-------------------------|-----------------------|
| - Java | - Linux/ Unix |
| - Go-Lang | - Windows/ WSL |
| - Python | - Eclipse/ IntelliJ |
| - C | - Terminal/ Bash |
| - HTML, CSS, JavaScript | - GitHub & Gitlab |
| - UML / System Design | - Visual Studio Codes |

References Available on Request