AMAAN AKRAM
YEAR 4 COMPUTER SCIENCE

EDUCATION

Heriot-Watt University **Sep 2017 - Current**
Edinburgh
BSc Computer Science (Software Engineering)
On track for 1:1

Auchmuty High school **Aug 2011 – May 2017**
Glenrothes
Higher: 2A,4B,2C
National 5: 3A,2B,2C

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** **Year 4 (current)**
- **Data Mining & Machine Learning**
- **Computer Network Security**
- **Advanced Network Security**
- **Big Data Management**

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

- Java
- Go-Lang
- Python
- C
- HTML, CSS, JavaScript
- UML / System Design

SOFTWARE EXPERIENCE

- Linux/ Unix
- Windows/ WSL
- Eclipse/ IntelliJ
- Terminal/ Bash
- GitHub & Gitlab
- Visual Studio Codes

References Available on Request