AMIR AZHAR

Computer Engineering Undergraduate

Computer engineering undergraduate with exposure in both software and hardware technologies. Self-motivated and enthusiastic learner with a yearn for self-development. A skilled coordinator and competent speaker/communicator with ability to perform in fast-paced environments. Strong interest in Artificial Intelligence, Machine Learning, Cybersecurity and Web Development.

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SKILLS

Embedded Programming | **Network Security** | **Database Systems** | **Object Oriented Programming** | **Machine Learning** | **Artificial Intelligence** | **C/C++** | **Python** | **Java** | **SQL** | **React** | **Vue** | **HTML/CSS** | **Javascript**

EDUCATION BACKGROUND

NATIONAL UNIVERISTY OF SINGAPORE — *2018 - 2022*
BACHELOR OF ENGINEERING (COMPUTER ENGINEERING)

VICTORIA JUNIOR COLLEGE — *2014 - 2015*
GCE 'A' LEVELS

WORK EXPERIENCE

VEHICLE SECURITY INTERN — *JAN 2020 - PRESENT*
HUAWEI SINGAPORE RESEARCH CENTRE

- Develop hybrid (rule-based and machine learning) Network Intrusion Detection System (NIDS) for connected and autonomous vehicles
- Implemented the NIDS, to detect commonly known cyber attacks, onto microcontroller for future application on real-life autonomous vehicles
- Trial implementation of real-time operating systems on embedded systems
- Enhanced it's features by effectively fixing bugs, hence optimizing overall performance, efficiency and memory
- Programming in mostly C++ and Python

PROJECTS

PERSONAL PORTFOLIO v2.0 — *JUN 2021 – PRESENT*
PERSONAL

- Developed a website showcasing my personal portfolio
- Old website was written in pure HTML/CSS/JS, and now revamped to current
- Website was developed using Node.js, React and Bootstrap

LEARN IT LIKE BECKHAM — *AUG 2020 – NOV 2020*
NATIONAL UNIVERSITY OF SINGAPORE CS3244 MACHINE LEARNING

- Develop machine learning model that forecasts goal difference of football matches by utilizing pre-match metrics
- Performed ensemble learning of multiple ML models such as kNN, SVM, Random Forest and so on.
- Performed feature engineering to optimize inputs for models
- Utilizing common machine learning libraries such as TensorFlow, Pytorch, Keras and Scikit-learn
- Done in Python, as a group project

CAREYOURPETS — *AUG 2020 – NOV 2020*
NATIONAL UNIVERSITY OF SINGAPORE CS2102 DATABASE SYSTEMS

- Developed web based databased application for pet caring service
- Implemented features to allow pet owners to search for care takers for their pets
- Performed database seed scripting and user testing
- Project was developed using Node.js, PostgreSQL and React, as a group project

ARTIFICIAL INTELLIGENCE (AI) PROJECTS — *MAY 2020 – JUN 2020*
NATIONAL UNIVERSITY OF SINGAPORE CS3243 INTRO TO ARTIFICIAL INTELLIGENCE

- N-puzzle solver using simple search algorithms such as BFS, UCS and A*.
- Sudoku solver as a constraint satisfaction problem using backtracking search with variable/value ordering heuristics and inference mechanisms.
- Pacman solver using Reinforcement Learning concepts, specifically Q-learning agents.
- All projects were done in Python, as a group project

HALLBOOKER — *AUG 2019 – DEC 2019*
NATIONAL UNIVERSITY OF SINGAPORE CS2113T OBJECT ORIENTED PROGRAMMING

- Developed text based Personal Assistant Chatbot (Java) to aid NUS hall admins in handling hall facility booking needs
- Developed the user component to better manage tracking of admins using the system
- Developed features with the object-oriented programming paradigm in mind
- Done in Java, as a group project

PROJECTS

ALEX RTOS BOT *AUG 2020 – DEC 2020*

NATIONAL UNIVERSITY OF SINGAPORE CG2271 REAL-TIME OPERATING SYSTEMS

- Developed an RTOS-based robotic car, Alex
- Embedded programming using a Freedom KL25Z (ARM MCU)
- Implementation of FreeRTOS
- Alex peripherals include motors, LEDs and buzzers, all controlled using an Android Application

RECYCLESG *MAY 2019 – AUG 2019*

NATIONAL UNIVERSITY OF SINGAPORE CP2106 INDEPENDENT SOFTWARE DEVELOPMENT

- Android app aiming to improve recycling knowledge and encourage recycling efforts, through a gamification system
- Developed the AR feature using Sceneform/ARCore & main UI of the app
- Awarded Apollo 11 difficulty level, highest level attainable
- Received the Judges' Choice Award, for being one of the more recognized projects
- Project was developed using Android Studio, as a pair-work project

CERTIFICATIONS

IBM DATA SCIENCE PROFESSIONAL CERTIFICATE *2020 – 2021*

EDX/IBM

- Consists of 10 courses covering data science fundamentals, tools and methodologies
- Hands on with database, SQL, data analysis and visualization, and machine learning within the data science field
- Underwent a capstone project working with real-life data and utilizing RESTful API
- Programming languages within the project mostly include Python, R, SQL