



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 SQL React Vue HTML/CSS Javascript Express MongoDB Node.js

EDUCATION BACKGROUND

NATIONAL UNIVERSITY OF SINGAPORE
BACHELOR OF ENGINEERING (COMPUTER ENGINEERING)

2018 – 2022

WORK EXPERIENCE

SOFTWARE ENGINEER INTERN

SOLAR AI TECHNOLOGIES

DEC 2021 – JUN 2022

Solar AI Technologies is a tech start-up that combines geospatial analysis of satellite imagery, big data and machine learning to analyse rooftop solar potential and estimate savings virtually.

- Design, develop and implement – (1) an Admin Platform for the Solar AI sales team and Energy companies to close leads, (2) a Customer Portal for new Solar AI customers/prospects to keep track of onboarding process and (3) an EPC Platform for our energy company partners to send offers/proposals and keep track of customer information
- Streamlined the sales process, from requiring >5 different third party applications to now only needing the Admin Platform
- Streamlined communication with customers and EPCs, previously done through manual text messaging by the marketing team, now done through the Customer Portal and EPC Platform.
- Utilised Technologies such as Next.js, AWS, DynamoDB and Elasticsearch

FRONTEND WORDPRESS DEVELOPER

NUS GLOBAL STUDIES

SEP 2021 – MAY 2022

NUS Global Studies is an interdisciplinary program housed under NUS's Faculty of Arts and Social Sciences.

- Redesigning and implementation of the NUS Global Studies WordPress
- Management and fact-checking of content viewed by hundreds of unique users daily
- Implemented reusable components using JavaScript Plugins

AUTOMOTIVE CYBERSECURITY INTERN

HUAWEI SINGAPORE RESEARCH CENTRE

JAN 2021 – JUN 2021

Huawei Singapore Research Centre (Shield Lab) focuses on researching in fields such as Cybersecurity, Artificial Intelligence and Digital trust.

- Developed and implemented hybrid (rule-based and machine learning) Network Intrusion Detection System (NIDS) for connected and autonomous vehicles to detect commonly known cyber attacks as part of the Vehicle Security Team
- Implemented real-time operating systems on embedded systems and microcontrollers for future application on real-life autonomous vehicles
- Enhanced features by effectively fixing bugs, hence optimizing overall performance, efficiency and memory, ensuring the readiness of the NIDS leading up to the product demo for the Vehicle Security Team in China

PROJECTS

PERSONAL PORTFOLIO v2.0

PERSONAL

JUN 2021 – PRESENT

- Developed a website showcasing my personal portfolio
- Old website was written in pure HTML/CSS/JS, and now revamped with state-of-the-art technologies
- Website was developed using Node.js, React and Bootstrap

DANCEDANCE DASHBOARD

NATIONAL UNIVERSITY OF SINGAPORE

AUG 2021 – NOV 2021

- Developed a full stack web application to stream real-time data and analytics of dancers wearing wearables
- Carried out user surveys to develop use cases, user stories and feature lists and used Adobe Xd to create design mockups
- Utilized common frontend libraries such as Bootstrap, MaterialUI and Nivo
- Developed using MongoDB, Express, React and MongoDB

LEARN IT LIKE BECKHAM

NATIONAL UNIVERSITY OF SINGAPORE

AUG 2020 – NOV 2020

- Developed a 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
- Utilized common machine learning libraries such as TensorFlow, Pytorch, Keras and Scikit-learn
- Done in Python

CAREYOURPETS

NATIONAL UNIVERSITY OF SINGAPORE

AUG 2020 – NOV 2020

- Developed web based database 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
- Developed using Node.js, PostgreSQL and React

PROJECTS

ARTIFICIAL INTELLIGENCE (AI) PROJECTS

NATIONAL UNIVERSITY OF SINGAPORE

MAY 2020 – JUN 2020

- 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.
- Done in Python

HALLBOOKER

NATIONAL UNIVERSITY OF SINGAPORE

AUG 2019 – DEC 2019

- 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

ALEX RTOS BOT

NATIONAL UNIVERSITY OF SINGAPORE

AUG 2020 – DEC 2020

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

RECYCLESG

NATIONAL UNIVERSITY OF SINGAPORE

MAY 2019 – AUG 2019

- 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
- Developed using Android Studio

CERTIFICATIONS

IBM DATA SCIENCE PROFESSIONAL CERTIFICATE

EDX/IBM

2020 – 2021

- 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