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EDUCATION

Nanyang Technological University, Singapore　　　　　　　**Aug 2020 – Dec 2023 (Expected)**
- **Bachelor of Engineering (Computer Science) with a Second Major in Business**
- Specialization: Artificial Intelligence, Cyber Security (Expected)
- Relevant Modules: Database System Principles, Machine Learning, Computer Security, Artificial Intelligence, Advanced Software Engineering, Augmented & Virtual Reality.

ACADEMIC PROJECTS

Nanyang Technological University, Singapore

Machine Learning Course Project　　　　　　　**Apr 2023**

Title: Store Item Demand Forecasting Challenge (Kaggle)
- Implemented Neural Network Model using Python with relevant libraries such as TensorFlow, NumPy, Pandas, and SKlearn and obtained a public score of 13.87, top 10% of the leaderboard.
- Accurately forecast 3 months of sales for 50 different items at 10 different stores and compare performance with other various models such as Seasonal ARIMA, LightGBM, and XGBoost.

AR Game Project – Tree Society　　　　　　　**Apr 2023**

Title: AR Productivity Application
- Design an AR Game by creating beautiful assets in the Unity asset store and Blender for users to plant various tree designs which follow Panorama Timer
- Implement user interactions with other users using Photon Multiplayer and C# to create our features to motivate users to be productive

Cyber-Physical Systems Security Project　　　　　　　**Mar 2023 – Apr 2023**

Title: Correlation Power Analysis (CPA)
- Implemented CPA to extract secret information from a cryptographic device by analyzing the power traces and calculating their hamming weight.
- Effectively plot the correlation of all possible key bytes to recover the complete 32-byte key on the Advanced Encrypted System (AES) and recover the initialization vector using Python

VR Game Project – Dino Rush　　　　　　　**Feb 2023**

Title: Obstacle Course
- Design a VR Game by importing an Obstacle Course Asset package from the Unity asset store; Create other 3D assets using Blender.
- Implement the movements, behavior, and user interface using C# to create various difficulties and experiences in each obstacle course level.

Cyber Threat Intelligence Project　　　　　　　**Sep 2022 – Oct 2022**

Title: Ransomware Research
- Conducted research on the dark web to gather primary data regarding Ransomware. Analyzed victim distribution by geography, identified motives, and documented historical instances of ransomware-linked attacks.
- Implemented Selenium to scrape the data while using a virtual machine paired with the TOR browser, by analysing the HTML code to find the correct elements despite the challenges of browsing the dark web

Multi-Disciplinary Project　　　　　　　**Aug 2022 – Oct 2022**

Title: Autonomous Image Recognition Task & Fastest Robot Movement Task
- Designed a modified A* path finder algorithm for our robot to visit all 4-sided obstacles at a specific side in the shortest time and distance with a Hamiltonian path using Python.
- Build a simulator with PyGame to test the designed algorithm with the visual movement of the expected paths taken.
- Integrated with Raspberry Pi and the STM32407 hardware to perform the various tasks at hand.
- Ranked top 6 in the fastest run time among 47 other teams and captured all 6 images successfully; achieved a fast runtime of 3 minutes.

Advanced Software Engineering Project   **Aug 2022 – Oct 2022**
Title: ElderCare Website Application
- Designed a website application to provide a one-stop online platform to provide the elderly with personal care solutions and healthcare services.
- Implemented the application with MongoDB, Express.js, React.js, and Node.js (MERN) Stack.
- Cultivate the whole Software Development Life Cycle – Project Proposal, Quality Plan, SRS, Project Plan, various management, and test plan documentation.
- Designed visual diagrams such as a deployment diagram, architectural design pattern, work breakdown structure, use case diagram, and Gantt Chart using visual paradigm; Designed prototype images and doctor dashboard using Figma and Tableau respectively.

WORK EXPERIENCE

Shopee Pte. Ltd., Singapore   **May 2023 – Nov 2023**
Data Analyst Intern
- Efficiently extract data for end-users from several large and complex data warehouses by utilizing SQL
- Automated data collection and aggregation processes to build reporting dashboards on Data Studio
- Optimized billing and operation processes by automating them using Python and relevant libraries such as Pandas, xlsxwriter, os, googleapiclient, etc., effectively reducing process time and workload

Undercurrent Capital Pte. Ltd., Singapore   **May 2022 – Jul 2022**
Algorand Specialist Intern
- Build and test decentralized applications for users to interact using Docker.
- Deployed non-fungible tokens and Algorand currency to smart contracts using Python and JavaScript.
- Learn courses that include Accounts/Wallets, Assets/Transactions, Algorand Virtual Machines, and Algorand Smart Contracts.

Ichisa Engineering Pte. Ltd., Singapore   **Jan 2020 – Jul 2020, Dec 2020, May 2021 – Jul 2021**
Sales & Operations Assistant
- Organized and finalized the company's stock list using Microsoft Excel.
- Boosted publicity by managing operations on social media such as Facebook and Instagram.
- Update and list new products on the company's website, Eezee Buy, and ShipParts.
- Volunteered for annual food distribution to the elderly and less fortunate.

LEADERSHIP & CO-CURRICULAR ACTIVITIES

SCSE Nanyang Technological University   **Jul 2021 – Aug 2021**
Orientation Group Leader
- Led a team of 18 members to foster bonds and forge new friendships.
- Conducted online games and camp activities for freshmen.
- Developed leadership, social, and communication skills through team bonding and group facilitation.
- Overcome the issue of engaging freshmen in virtual activities, despite the cultural change due to the COVID-19 restrictions being implemented.

1 GUARDS, TEAM COMMANDER, SAF   **Jan 2018 – Nov 2019**
Reconnaissance Guards Sergeant, Team Leader
- Educate discipline and impart knowledge on technical skills to my peers.
- To lead and inspire my peers to always strive for excellence and success in both missions and events.
- Led a team in the National Day Parade to successfully set up the area and establish crowd control.

Meridian Junior College   **May 2016 – Aug 2017**
Table Tennis Captain
- Planned camp activities and training schedules to foster teamwork and bonding.
- Developed training programs to guide new players and improve experienced players.
- Liaised with other schools such as Temasek Junior College for friendliness, and nurturing sportsmanship.
- Led the school's team to represent in the 'A' Division Boys' National 2017.

SKILLS / INTERESTS

Languages: English, Chinese

Programming: Python, Java, HTML/CSS, JavaScript, MS SQL Server, MySQL, Basic C++, C, C#, Unity.

Online Courses: Microsoft Azure Fundamentals Course || Cyber Defenders Discovery Camp

External Certifications: Introduction to C# Programming and Unity || Programming Foundations with JavaScript, HTML, and CSS || Cloud Computing Foundations || Algo Foundry Fundamentals