Lim Chao Zhou

chaozhoulim@gmail.com ❖ (+65) 92976861❖ Singapore ❖ Singaporean Citizen

www.chaozhoulim.com • https://www.linkedin.com/in/chaozhoulim/ • https://github.com/zclzz

EDUCATION

National University of Singapore, Singapore   **Expected May, 2024**

B. Eng. (Engineering Science) (Hons), with specialization: Computational Science Engineering, Minor: Artificial Intelligence

- **GPA: (Honors with Distinction)**
- **Final Year Research Thesis:** Using Natural Language to Command Embodied Artificial Intelligence – **Top 12** Place ALFRED Challenge
- Vice- Captain Eusoff Hall Volleyball club, PAL Mentor Eusoff Hall, Orientation Group Leader ESP sub-club

University of Toronto, Canada   **Winter Exchange Programme**

Engineering Science, Faculty of Applied Science and Engineering   Jan 2023 – Apr 2023

- **Courses Taken**: ROB311: Artificial Intelligence • ROB313: Introduction to Learning from Data • APM462: Non-linear Optimization • MAT246: Concepts in Abstract Mathematics • APS112: Engineering Strategies and Practices

EXPERIENCE

SIA-NUS Digital Aviation Corporate Laboratory, Singapore   **May 2023 – Present**

Research Engineer   Internship, Part-time

- Research Goal: **Develop an AI model** to predict passenger sitting discomfort caused by prolonged sitting in long-haul Business Class flights using **multi-modal sensors** and aim to alleviate it using an **AI-powered** smart seating solution.
- Implemented **ML algorithms** to analyse **time-series seat pressure data**, studying human shifting patterns over short intervals indicative of discomfort
- **Conduct pilot studies** on participants and liaise with SIA for further development of IRB proposal.
- **Delivered insightful data-driven** reports and updates to Principal Investigator (PI) and key SIA stakeholders, facilitating informed decision-making processes.
- **Develop android system** (full-stack) to integrate with the cabin simulator's In-Flight Entertainment system (IFE), to collect subjective data.

Stack: Python • Java • XML • Object Oriented Programming • Google Apps API • Google Apps Script • TensorFlow • Pytorch • OpenCV • Supervised Machine Learning • KNN • Regression Analysis • Open Pose • Decision Trees • Data Structures & Algorithms
Hardware & Systems: Linux • Virtual Machines • Pressure sensors • Servos • Jetson Nano • Arduino • LEDs

Automated Micron Assembly, Singapore   **May 2022 – Aug 2022**

Robotics Engineer   Internship

- Developed and implemented **computer vision and pattern recognition algorithms** to enhance automation products, demonstrating their capabilities for marketing and client efficiency solutions.
- Engage in meetings with existing and prospective clients to discuss opportunities on future collaborations.

Stack: Python • TensorFlow • Pytorch • OpenCV • ROS • Supervised Machine Learning • KNN • Regression Analysis
Hardware & Systems: Linux • ToF sensors • Servos • Raspberry Pi • Arduino • Jetson Nano • LEDs

Singapore Armed Forces   **Apr 2018 – Feb 2020**

Platoon Sergeant 749 SIR Charlie | Feb 2020 - Present   Reservist National Service

Asst. Platoon Sergeant 3 SIR Charlie | Feb 2019 – Feb 2020   Full-time National Service

- Lead and train 40 soldiers in the SAF both in and off the field

CAPABILITIES

Machine Learning Supervised & Unsupervised Machine Learning • Classification & Regression Models • KNN • Clustering • SVM • Decision Trees • Naïve Bayes • Ensemble & Voting Classifiers • Deep Learning • Natural Language Processing
Neural Networks CNN • LSTM • Large Language Models • Transformers
Tools & Libraries OpenCV • TensorFlow • Media Pipe • Open Pose • Keras • Sci-Kit Learn • Hugging Face
Programming Languages Python • Java • JavaScript • HTML • CSS • XML • ROS • C++
Hardware & Systems GPU • CUDA • Linux • Jupyter • Microcontrollers • Sensors • Servos
Software CAD SolidWorks • Fusion 360 • MATLAB • Mathematica • COMSOL Multiphysics • Android • Power BI • Tableau • Git
Visualization and Databases Power BI • Tableau • MySQL • PostgreSQL
Spoken Languages Bilingual: English (Native) • Mandarin
Soft Skills Teamwork • Leadership • Problem Solving • Critical Thinking • Adaptability • Independence • Time-management

AWARDS AND LEADERSHIP

Leadership Vice-Captain Eusoff Hall Volleyball (2022) • Peer Assisted Learning (PAL) Mentor (2022) • OGL (2022) • Platoon Sergeant (2020) • Section Commander (2019) • Captain School Volleyball Team (2014-1017)

Promotion in rank to Second Sergeant – In recognition of good leadership and higher appointment
Honored Graduate NS Specialist Cadet School (2018) - Awarded the Silver Bayonet for top performing cadets.
Edusave CDC-CCC Merit Bursary academic achievement (2016) - Awarded to the top performing students in the cohort.
Dean's List Pre-U 1 (2016) - In recognition of top performing students in the cohort.
MOE Edusave Scholarship (2012 and 2013) - Awarded to top performing students of the cohort.