Chong Hou Choi

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Skills Summary

Programming Languages: Python, C/C++, Java, JavaScript, MATLAB, HTML, CSS, SQL, Bash
Frameworks: Linux, Git, Anaconda, PyTorch, OpenCV, CUDA, PyGame, OpenGL
Software Development: Vue.js, React.js, Flask, MySQL, Postman, Jira
Languages: English, Cantonese Chinese, Mandarin Chinese, Japanese

Work Experiences

Research Intern **Jan 2022 - Nov 2022**
Shanghai Artificial Intelligence Laboratory, General Vision Group *Beijing, China*

- Completed the debugging of **Temporal Action Localization** part of **INTERN 2.0**.
- Improved the State-of-the-art function of THUMOS14, ActivityNet v1.3, and HACS dataset.
- Launched the final programme at the 2022 World Artificial Intelligence Conference as part of INTERN 2.0.

Selected Projects

TutorEase(Online Tutor Matching Platform) | *Flask, MySQL, Vue.js, Postman, PyTest* **Feb 2024 - Present**

- Developed and designed TutorEase, a Vue and Flask-based web application.
- Designed and implemented a MySQL database schema to efficiently store and manage data for both students and teachers, ensuring data integrity and optimal performance.
- Validated backend API with PyTest to ensure code functionality.

Indoor Visual SLAM based on Glass Segmentation | *C++, ROS, Python, PyTorch, Linux* **Nov 2022 - Jun 2023**

- Integrated deep learning-based Glass Segmentation models to dynamically optimize odometry, boosting localization accuracy in glass scenes.
- Developed a fusion approach of wheel and visual odometry to improve visual SLAM accuracy in glass-rich settings.
- Used **ORB-SLAM3** and **RGB-T Glass Segmentation** as the basic frameworks.

The Development of the Doudizhu Poker Game Based on PyGame | *Python, PyGame* **Sep 2021 - Oct 2021**

- Designed user interface with PyGame and implemented Specific Cards, Manual, Auto, and Clear functions.
- Employed backtracking algorithm to find the least number of times to play out the cards.
- Added 1v1 battle function and provided optimal gaming strategies for gamers as advice using search algorithms.

Four-wheeler Negotiating the Maze Based on TI Chip(MSP432) | *C++* **Jun 2021 - Sep 2021**

- Obtained the rotational speed of wheels with optical encoder's feedback and controlled the four-wheeler's speed through the PID control algorithm.
- Input the waveform to the motor driver IC (TB6612) and output to control the movements of the four-wheeler.
- Achieved the optimal way to negotiate the maze with the A* algorithm.
- Utilised Code Composer Studio as the programming platform.

The Implementation of HMI for Texas Holdem Poker | *Python, C++* **Mar 2021 - Jun 2021**

- Applied Pluribus Poker AI Model for strategy decision. Designed the user interface for playing poker with AI model and relevant data collection.
- Used C++ programme for comparing poker gamers' capability.

Education

University of Waterloo **Sep 2023 - Present**
Master of Engineering in Electrical and Computer Engineering(Co-op) *Waterloo, ON, Canada*

Tsinghua University **Sep 2019 - Jun 2023**
Bachelor of Engineering in Automation Engineering *Beijing, China*

Leadership / Extracurricular

Macau Culture Committee **Sep 2019 - Jun 2023**
Cantonese Tutor *Tsinghua University*

- Organised promotion activities and Macau students' networking events, gave lectures on Macau and Cantonese culture.

Awards

AEON Scholarship: Outstanding performance in Japanese classes. Only 10 places for Tsinghua students in total
Literature and Art Scholarship: Department of Automation, THU