JIAHAO LIANG

Contact

Computer Science Student

Name: JIAHAO LIANG

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Education

Bachelor of Science in Computer Science minor in Statistic *McGill University, Montreal, QC*

- McGill Robotic Team: working on the software of Autonomous Underwater Vehicle (09/2022—Present)
- Member of Google Developer Student Club (09/2022 -- Present)
- Courses: Algorithms and Data Structure, Discrete Structure, Operating System, Statistics, Programming Languages and Paradigms etc

Skills

Programming Language: Java(4 years), Python(3 years), C++(2 year), HTML/CSS(0.5 year)

Special Tools: SQL(MySQL) (0.5 year), Microsoft office, Linux

Language: Fluent in English and Chinese

Working Experience

KEMU Technology(Database management)(E-commerce app)(Programming Intern) May.202--Aug.2023

Suzhou, China

- Collaborated with a mentor to handle daily database(30 millions data) maintenance for up to 20,000 visits.
- Developed a mini-program for exploring restaurants, attracting over 300 Tiktokers and achieving a daily visit count of 32,000.

Advanced Micro Devices(Co-Op/ Intern position) May.2024 –Dec.2024

Shanghai, China

- Developed AI code to enable real-time seamless face swapping in videos, while also detecting objects within the video.
- Integrated GPU-accelerated shaders to handle complex face-swapping operations, previously processed by CPU using OpenCV.
- Optimized FFmpeg integrated with Ryzen AI to stabilize the frame rate at 20fps by maximizing GPU utilization and asynchronous CPU-GPU processing.

Research Assistant — McGill University & CEIMIA April 2025 – Present

Project: AI for Climate Resilience: Extracting Weather Intelligence from Historical Archives *Montreal, Canada*

- Using Retrieval-Augmented Generation (RAG) and fine-tuned LLMs to extract extreme weather information from 19th-century newspaper archives.
- Contributing to the development of domain-specific embeddings and semantic retrieval pipelines to improve information extraction accuracy

Projects

McHackathon11(Project and DEMO) Jan.2023--Jan.2023

GitHub: *https://github.com/s026352/MCHACKS11* *Montreal, Canada*

- Implemented Mediapipe's real-time gesture recognition for player hand movements.
- Utilized AI to convert 2D professor images into integrated Unity 3D models.
- Developed a custom physics engine for realistic punch impact feedback.
- Designed user pages with background music adjustment, photo uploads for custom 3D models, and game score recording.
- Achieved the "Achievement Unlocked" award among 383 participants and 16 awards.

McGill Robotic Team(https://mcgillrobotics.com/) Sep.2022--Present

Software department *Montreal, Canada*

- Built an autonomous underwater vehicle that can complete a series of tasks and maneuvers that are focused on visual and acoustic navigation. I responsible for developing software control for the robot.