

Hu Tianrun

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EDUCATION

Nanyang Technological University, Singapore, SCSE

Aug 2020 – May 2024

Bachelor of Computer Engineering Specialized in Artificial Intelligence

- GPA 4.4/5.0, Distinction Honours, Senior Middle Two **Full Scholarship**
- Courses: Machine Learning, Deep Learning, Embedded Programming, Robotics

INTERNSHIP

Continental AG

Singapore

Machine Learning Intern

Jan 2023 - Jun 2023

- Integrated the Extended Kalman Filter into the perception system using ROS2.
- Developed a versatile benchmarking system, facilitating the evaluation of various visual odometry methodologies.
- Collaborated closely with hardware engineers to ensure seamless integration of machine learning algorithms with sensors and actuators, bridging the gap between theoretical models and practical applications.
- Contributed to the optimization of hardware configurations and sensor calibration procedures, ensuring that the machine learning models received accurate and reliable data inputs.
- Participated in cross-functional team meetings, providing insights on how machine learning techniques can enhance the performance and reliability of hardware systems in automotive applications.

NUS Research Internship

Singapore

Research Assistant

Sep 2023 - Jun 2024

- Employed the Gaussian Splatting pipeline to enhance the accuracy and adaptability of the reconstructed object.
- Achieved successful integration, enabling a seamless transition from simulation to real-world application.

NTU Summer Internship

Singapore

Student Research Assistant

Jun 2022 - Jul 2022

- Designed and implemented a knowledge-based Question and Answer System.
- Utilized BERT for natural language processing, Django for backend development, and Vue.js for front-end design.
- Successfully delivered the final Q&A system, meeting project objectives and enhancing information retrieval accuracy.

ACADEMIC PROJECT

Gaussian Splatting Toolkit Open-Source Project

Sep 2023 - Now

- Developed a comprehensive toolkit for Gaussian Splatting.
- The mesh extraction significantly outperforms popular method, SuGaR, in both quality and speed.
- GitHub link: <https://github.com/Gaussian-Splatting-Toolkit/Gaussian-Splatting-Toolkit>

Study of Local Descriptors in Visual Place Recognition (Final Year Project)

Aug 2023 – May 2024

- Identified accuracy limitations in a popular VPR algorithm and proposed novel local descriptor subsampling strategies.
- Achieved improved accuracy without compromising speed, outperforming the original algorithm by 3%.

ACTIVITY & COMPETITION

Machine Learning & Data Analysis Club

Sep 2021 – May 2022

- Led a team to develop and deploy an animal pose estimation model, successfully delivering it to Black Sesame.

Chinese society – Finance Team

Sep 2021 – May 2022

- Reviewed and audited the financial report for the NTU Chinese Society Lunar New Year Celebration Live event.

ESCENDO ITO Hackathon

Jan 2022 – Jan 2022

- Engineered the entire system architecture, spanning from Arduino hardware to Vue.js frontend development.
- Implemented hardware components, focusing on sensors, UART data transmission, and multitasking capabilities.
- Advanced to the final round of the competition.

ADDITIONAL INFORMATION

Languages: Chinese (native), English (fluent)

Programming: C, C++, Python, Java

Software Architecture Skills: Pytorch, TensorFlow, Pandas, SciPy, Embedded Programming