Xinyue YAO

Bachelor of Robotics Engineering — Zhejiang University, Hangzhou, China
xinyue.yao@zju.edu.cn — +86 15222858981

RESEARCH INTERESTS

Robotics, Embodied AI...

EDUCATION

The Chinese University of Hongkong, Shenzhen, Shenzhen, China — 25 Fall Incoming
Master of Philosophy in Computer Science

Zhejiang University, Hangzhou, China — Sep. 2021 — Present
Bachelor of Engineering in Robotics — Cumulative GPA: 3.69/4.00, Major GPA:3.80/4.00

PROJECTS

Research Assistant for Embodied AI — Hangzhou, China
Longitudinal Project — Mar. 2023 — Present

- Doing internship in APRIL Lab, advised by Prof. Yong Liu
- Building Robot system to assemble parts leveraging VLMs.
- Collaborated the whole pipeline designing and coding.

Answering LLM Science Exam Based on Bert Model — Hangzhou, China
Course Project — Sep. 2024 — Nov. 2024

- Using fine-tuned Bert model and RAG to answering multiple choices questions.
- Collaborated the whole pipeline designing and coding.

LiDAR Fusion Based Algorithm Implementation for UAV — Hangzhou, China
Crosswise Project — Dec. 2023 — Feb. 2024

- Implement SLAM algorithm on UAV.
- Collaborated on the LiDAR hardware.

Path Planning and Obstacle Avoidance for UAV — Hangzhou, China
Robotics II Course Project — Nov. 2023 — Jan. 2024

- Collaborated in a four-person group, focusing on UAV trajectory planning.
- Involved in the sim-to-real process, including simulation environment setup, algorithm design, and practical testing.
- My responsibilities include algorithm design, hardware debugging.

Robotic Arm Modeling and Control — Hangzhou, China
Robotics I Course Project — Sep. 2023 — Nov. 2023

- Collaborated in a four-person group, focusing on robotic arm trajectory planning and force control.
- Led the project involving robotic arm modeling, CoppeliaSim simulation, trajectory planning, and force control.
- My responsibilities include robotic arm modeling, trajectory planning.

3D Model Displayer based on OpenGL — Hangzhou, China
OOP Course Project — Mar. 2023 — Jun. 2023

- Designed and implemented a software for loading and displaying 3D models using OpenGL.
- Included the design of classes, templates, UI, shaders, etc.

SELECTED COURSES

Bachelor's Courses

- **Robotics I:**
- Covers machine operation theory in industrial robots, including kinematics, inverse kinematics, force transformation, and control methods for both linear and nonlinear systems..
- **Robotics II:**
- Introduces autonomous mobile robots, including kinematics, navigation, localization, mapping, and environment perception.
- **Computer Vision:**
- Focuses on image processing fundamentals, including image formation, feature extraction, stereo vision, tracking, segmentation, recognition, and convolutional neural networks.
- **Artificial Intelligence and Machine Learning:**
- Covers basic machine learning principles, including statistical learning, Bayesian and frequentist approaches, and deep learning for computer vision and NLP.
- **Embedded System:**
- Introduces embedded system fundamentals, including interface technology and programming using 8051 and ARM chips.
- **Signals and System:**
- Covers the analysis of linear, time-invariant systems, with discussions on time and frequency domains and relevant transformations
- **Principles of Automatic Control:**
- Introduces control problem formulation, system representation methods, and design methodologies in time and frequency domains, including root-locus and frequency-response methods.

Additional Courses

- **Object Oriented Programming(C++)**
- **Data Structure**
- **C Programming Language**

OTHER EXPERIENCES

Club Assistant for the Handicraft Club Hangzhou, China
Club Assistant Sep. 2021 — Present

- My responsibilities include organizing handicraft activities, external communication, and conducting handicraft teaching sessions.

SKILLS

- **Programming:** C/C++; Python; Pytorch
- **ROS**
- **Software:** Basic knowledge on Solidworks