

Curriculum Vitae

Lyu Changda

EDUCATION

Anhui University (211 University & Double First Class University)
Bachelor's Degree in Automation, Current Average Score: 84.74/100

Sep 2019 - Jun 2023

PROJECT EXPERIENCE

Adaptive Tracking Control Based on Reinforcement Learning Algorithms

Sep 2022 - Jun 2023

Individual Graduation Project

- To design an online adaptive optimal controller for continuous-time linear systems based on reinforcement learning algorithms, even when the system's dynamic characteristics are completely unknown.
- Introducing an approach based on the policy iteration algorithm, utilizing approximate or adaptive dynamic programming, and solving Riccati equations through iterations.
- No prior knowledge of system matrices is required, and computations are performed using online states and input information at fixed time intervals.
- Conducted simulation tests on unmanned aerial vehicle (UAV) systems, demonstrating the method's effectiveness in throttle input and attitude control.

National College Students Innovation and Entrepreneurship Training Program

Jun 2021 - Jun 2022

Team Leader

- Led a team in exploring the application of an intelligent tracking omnidirectional platform based on Mecanum wheels and the business potential behind it.
- Passed the mid-term review of the project defense which resulted in earning the approval and outstanding certificate by national panels.
- Mainly responsible for the programming and integration of both platform control code and visual system code before proceeding to the debugging and report write-up phases.
- Concluded prior smart car projects' experiences and used STM32F407 as the main control.
- Included visual recognition, gyroscope stabilization system, cascade pic, the fuzzy control algorithms to enhance the stability and maneuverability of the platform.

The 16th National College Students Smart Car Competition (Provincial Level)

Feb 2021 - Jul 2021

Team Leader

- Led a team in building a smart car that can identify routes independently based on the development of CH32V103 single-chip microcomputer.
- Allocated tasks related to programming and hardware composition for path recognition, speed acquisition, angle control, and vehicle speed control to members based on their strengths.
- Successfully developed the vision system independently by using OpenCV and enhanced C++ applications by constantly optimizing and testing before the competition.
- Obtained 2nd Place in the competition as an recognition towards optimal performance of the smart car, programming visualization, and the team dynamics shown to the panels.

INTERNSHIP EXPERIENCE

Inner Mongolia Youda Building Equipment Installation Co., Ltd.

Sept 2023 - Jul 2024

Embedded Control System Engineer Intern

- Projects Involved: Contributed to the improvement project of the Red Star Macalline Plaza building automation system by introducing a distributed intelligent control system, enhancing system performance and stability.
- Technological Applications: Implemented Internet of Things (IoT) technology, connecting sensors with the central control system, enabling real-time data collection and analysis, providing data support for system optimization.
- Data Analysis and Prediction: Utilized machine learning algorithms to analyze historical data, forecast foot traffic, and automate adjustments to air conditioning, lighting, and security systems, reducing energy consumption.
- Team Collaboration: Actively participated in team collaboration, closely coordinated with team members, ensured timely project delivery, and made positive contributions to the successful implementation of the project.

EXTRACURRICULAR ACTIVITIES

Anhui University Model Club, Member and Contestant	Nov 2021 - Feb 2022
Anhui University Freshman Cup Basketball Contest, Class Representative	Sep 2019 - Nov 2019
Anhui University College Students Sports Carnival, Committee Member	Oct 2019

AWARDS

Certificate of Outstanding Completion for The National College Students Innovation and Entrepreneurship Training Program	Jun 2022
2 nd Place in The 16 th National College Students Smart Car Competition (Provincial Level)	Jul 2021
The Communist Youth League and Students' Union Scholarship	Dec 2020