Yifan Yin

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EDUCATION

JOHNS HOPKINS UNIVERSITY — Baltimore, MD
MSE in Robotics: Expected May 2023
Relevant Coursework: Machine Learning; Computer Vision; Foundations of Reinforcement Learning; Robot Devices, Kinematics, Dynamics, and Control

UNIVERSITY OF PITTSBURGH — Pittsburgh, PA
BS in Mechanical Engineering: May 2021 **Minor in Electrical Engineering**
- Overall GPA: 3.91/4.0

SICHUAN UNIVERSITY — Chengdu, Sichuan, China
BSE in Automatic Engineering: June 2021
- Overall GPA: 3.87/4.0
- **Academic Stars**: 1 Semester; **Dean's List**: 2 Semester

RESEARCH PROJECTS AND COMPETITIONS

Game Playing in 'Flappy Bird' with Double Deep Q Network Sept. 2021 – Dec. 2021
Course Project
- Designed and implemented an intelligent agent for playing the game 'flappy bird' by practicing expertise in reinforcement learning and deep learning
- Performed grayscale conversion, background removal, and resizing to a series of game images with OpenCV
- Developed convolutional neural networks for action-value approximation with pixel inputs using PyTorch
- Explored improvement in performance after adding a Target Network and a replay buffer by focusing on stability and overestimation problems

Development of a Mechanical Loading Device for a Micro-Physiological Tissue Chip Jan. 2021 – May 2021
Senior Design Project
- Designed operating stages of the loading device for environment data collection and signal processing
- Familiar with modern prototyping technologies i.e. CNC machining and 3D printing
- Developed series communication for a user-interface that adjusts loading parameters
- Documented the entire designing, testing, and manufacturing process of loading systems

Design steering control module of a maze-solving micro-mouse robot Oct. 2019 – Feb. 2020
Teamwork Project
- Hands on experience and familiarity with robotic systems
- Experience with C++/MATLAB/Simulink/ROS
- Fluent in software fundamentals including software design, algorithm development, data structures
- Designed algorithm to increase the stability of steering control module of a maze-solving micro-mouse robot
- Developed teamwork skills to work on the topic of robotics and artificial intelligence

Research on the Design of High Temperature Work Clothing May 2018 – Sept. 2018
China Undergraduate Mathematical Contest in Modeling
- Constructed mathematical models for high-temperature work suits under different working periods by applying heat transfer mechanism
- Lowered computational cost applying principal component analysis
- Improved model accuracy and credibility by introducing linearization and local solution

LEADERSHIP AND ACTIVITY

Technology and Science Association, SCU *3D Printer Specialist* Sept. 2018 – Jun. 2019
- Provided training on the mechanism and application of 3D printers
- Participated in the organization of 3D printing exhibition over the campus to promote 3D printing knowledge and techniques

PROFESSIONAL SKILLS

- Strong mathematical modelling and analytical skills in MATLAB/ Simulink
- Demonstrated programming skills in one or more high level languages (C/C++, Python.)
- Solid knowledge in mechatronics, machine learning, reinforcement learning, computer vision
- Experience in dynamics and control. Research publications in related field
- Proficient in using SolidWorks, CATIA for creating schematics and 3D modeling