

Yi-Chi "Angela" Wu

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RESEARCH INTERESTS

Robotics, Artificial Intelligence, and Computer Vision

- I am interested in developing and building AI-based applications on robots to assist and interact with human.

EDUCATION

Rice University

Houston, TX

Master of Computer Science

Aug. 2021 – Present

- Overall GPA: 4.00/4.00
- Fall 2022: Graduate Tools Models – Data Science, Parallel Computing

National Taiwan University

Taipei, Taiwan

Bachelor of Science, Department of Atmospheric Sciences

Sep. 2017 – Jul. 2021

- Overall GPA: 3.80/4.30 (3.78/4.00)
- Last 60 credits: 3.96/4.30 (3.92/4.00)
- CS-related GPA: 3.95/4.30 (3.92/4.00)

University of California, Berkeley

Berkeley, CA

Summer Exchange, Department of Electrical Engineering and Computer Sciences

Jun. 2019 – Aug. 2019

- Overall GPA: 3.70/4.00

RESEARCH EXPERIENCE

Unhelkar Lab, Rice University

Houston, TX

Advisor: Vaibhav Unhelkar, Assistant Professor

Jan. 2022 – Present

- Implemented OpenAI Gym infrastructure in ROS to prepare Panda robots for Reinforcement Learning.
- Conducted Reinforcement Learning and Imitation Learning experiments on Panda Robots.

High-Speed Networks Labs, National Tsing Hua University

Hsinchu, Taiwan

Advisor: Nen-Fu "Fred" Huang, Distinguished Professor / Dean, College of EECS

Jul. 2020 – Sep. 2020

- Modified YOLOv3 Network to detect soybeans in videos and generated a self-labeled dataset.
- Utilized Pytorch to train a Convolutional Neural Network for soybean classification.

PROJECT EXPERIENCE

Statistical Machine Learning | *Pytorch*

Houston, TX

Mar. 2022 – Apr. 2022

- Tackled a binary classification task of classifying chest x-ray images into COVID-19 cases and control (non-COVID) cases with data augmentation, transfer learning and ensemble models.

Grad. Object-Oriented Programming and Design | *Java, JavaScript, react.js*

Houston, TX

Oct. 2021 – Dec. 2021

- Documented API specification documents that includes all the use cases, design decisions and how each interface or abstract classes can be used to implement all the functionality needed.
- Designed and implemented the frontend of a chat app with react.js.
- Designed and programmed the backend of a chat app and a Pac-Man game with design patterns such as MVC, singleton, factory, strategy and command design pattern.
- Conducted unit testing with over 90 percent of line coverage.

Algorithmic Robotics | *C++, OMPL, Z3*

Houston, TX

Oct. 2021 – Nov. 2021

- Fulfilled kinodynamic motion planning for pendulums and cars using OMPL with self-implemented planner RG-RRT.
- Conducted SAT task planning for Icy Path and Sokoban on Ice problem using Z3.

- Designed an app that generates music scores according to movie scenes in real-time using Convolutional Neural Networks and Bi-LSTM with PyTorch.
- Fulfilled fruit recognition with over 100 classes of fruits using deep Convolutional Neural Network.
- Performed real-time tasks on Jetson Nano.

WORK EXPERIENCE**Google LLC**

Mountain View, CA

*Software Engineering Intern**May. 2022 – Present*

- Works under the YouTube team.

AndroVideo Inc.

Taipei, Taiwan

*Artificial Intelligence R&D Intern**Sep. 2020 – Feb. 2021*

- Constructed a Convolutional Neural Network with a spatial transformer network for facial expression recognition.
- Utilized TensorFlow to make a pull-up counter with pose estimation.

RELEVANT COURSES**Compulsories**

- Introduction to Computer Science, Discrete Mathematics, The Structure and Interpretation of Computer Programs, Data Structure, Digital Systems Design and Laboratory, Engineering Mathematics(I)-Linear Algebra, Probability and Statistics, Operating Systems, Computer Architecture, Formal Languages and Automata Theory, Graduate Object-Oriented Programming and Design, Graduate Design and Analysis of Algorithms

Electives

- C/C++ Programming, Introduction to Computational Logic, Introduction to Computer Networks, Computer Vision, Applications of AI Neural Network Models, Algorithmic Robotics, Introduction to Computer Security, Statistical Machine Learning, Computer Science Project

SKILLS**Programming Languages**

- Python, C/C++, Java, Go, MATLAB, Fortran, JavaScript, HTML5, GrADS, C#, Verilog, Coq, NuSMV, LaTeX, RISC-V, MIPS

Operating Systems

- UNIX, macOS, Windows, xv6

Tools

- OMPL, PDDL, ROS, Gazebo, SAT Solvers, Unity, Docker, git, heroku, autopsy, GDB, Wireshark

Languages

- Fluent: Chinese, English; Intermediate: French; Basic: Japanese, Korean

Test Scores

- TOEFL: 105/120 (L:30/30, R:29/30, W:24/30, S:22/30)
- GRE: 328/340 (Q:170/170, V:158/170, AW:3.5)

LEADERSHIP EXPERIENCE**Technical Lead**

Houston, TX

*Team WhatsApp, Graduate Object-Oriented Programming and Design**Nov.2021 - Present*

- Kept track of the developing process.
- Built the skeleton code of the Pac-Man game.
- Made technical decisions for the Pac-Man game.
- Dissected parts of the program to assign work to the developers.
- Reviewed codes and implemented the missing features of the application.

Head Camp Counselor

Taipei, Taiwan

*NTU PPM X AS Orientation Camp**Mar. 2018 – Sep. 2018*

- supervised a group of 20 counselors.
- Organized an event with over 70 attendees.