

PEGGY (YUCHUN) WANG

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EDUCATION

STANFORD UNIVERSITY
B.S. (06/2020) + M.S.
(06/2021) IN **COMPUTER
SCIENCE: ARTIFICIAL
INTELLIGENCE TRACK**
AI/ROBOTICS

COURSEWORK

- Deep Learning (CS230)
- Artificial Intelligence (CS221)
- Principles of Robotic Autonomy (AA274)
- Algorithms (CS161)
- Reinforcement Learning (CS234)
- Computer Vision (CS231N)
- Computer Systems (CS110)
- Linear Algebra and Differential Equations (MATH51)
- Computer Graphics (CS248)
- Applied Matrix Theory (MATH104)
- Machine Learning (CS229)
- Robot Perception and Decision Making (CS336)

SKILLS

- Proficient in C++, Python, Git, Matlab
- Used tools and libraries such as: ROS, OpenAI Gym, Keras, NumPy, plot.ly, Pytorch, and OpenCV

EXTRACURRICULARS

**LEAD EVENT
ORGANIZER,
STANFORD ROBOTICS
CLUB**

**SPONSORSHIP CHAIR,
STANFORD WOMEN IN
COMPUTER SCIENCE**

**HACKOVERFLOW
HACKATHON CO-
CHAIR, STANFORD
WOMEN IN COMPUTER
SCIENCE**

LANGUAGES

- English
- Chinese (Mandarin)

WORK EXPERIENCE

**SOFTWARE ENGINEERING INTERN, FACEBOOK AR/VR, OCULUS
CORE TECHNOLOGY TEAM** – JUNE 2019 - SEP. 2019

- Computer Vision, AI Systems Team in Oculus
- Designed and created end-to-end pipeline for camera reprojection of ground truth depth data and integrated into data collection system, improved efficiency by ~230%
- Created algorithm to speed up data processing by ~30%
- Created visualization frontend and backend system to compare different depth sensing algorithms using QT and OpenGL

**SOFTWARE ENGINEERING INTERN, LYFT AUTONOMOUS
DRIVING DIVISION (LEVEL 5 OFFICE)** – JULY 2018 - SEP. 2018

- Created pedal model for vehicle kinematics in autonomy motion planning and controls team
 - Built Python plotting tools for scatter plot after linearly interpolating timestamps of different fields
 - Built control service in C++ with publisher/subscriber system to automatically test throttle and brake system at test site
 - Fitted and validated function model using Python and Matlab, improved previous model by 1.5x
- Refactored and integrated vehicle model into control system on test vehicles and simulation, created OpenGL visualization for comparing different models

RESEARCH EXPERIENCE

**COMPUTER SCIENCE RESEARCHER, STANFORD INTELLIGENT
SYSTEMS LAB, STANFORD UNIVERSITY** – JAN. 2019 - PRESENT

- Used hierarchical reinforcement learning and utility value decomposition to develop a city-level policy for autonomous driving agents composed of low level policies trained on micro-scenarios

**VISITING RESEARCHER, ADVANCED ROBOTICS LAB,
UNIVERSITY OF EDINBURGH** – JUNE 2018 - JULY 2018

- Performed analysis of Deep Reinforcement Learning Networks
 - Wrote Python and Bash scripts to automatically collect data from OpenAI simulation environment for humanoid robot balancing
 - Conducted systematic data analysis using Matlab by creating phase plots and modeling control policy of agent

PROJECT EXPERIENCE

**COMPUTER VISION/DEEP LEARNING PROJECT, UNMANNED
AERIAL VEHICLE (UAV) CLUB, STANFORD UNIVERSITY** – OCT.
2017 - JUNE 2018

- Detected, localized, and classified the shape, color, and alphanumeric character of a poster object from an aerial image
 - Generated unique dataset of over 10,000 images by augmenting shapes and alphanumeric characters from EMNIST dataset onto aerial background image
 - Trained YOLO network and implemented OpenCV SURF algorithm to localize objects
 - Developed a Convolutional Neural Network using Keras to classify alphanumeric characters
 - Utilized k-means clustering to segment objects from background for color classification