

YIFAN LI

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ACADEMIC BACKGROUND

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| Yale University, CT | <i>M.S. Computer Science (Expected Dec 2021)</i> | GPA: 4.0/4.0 | |
| Rensselaer Polytechnic Institute, NY | <i>B.S. Computer Science (Dec 2019)</i> <i>B.S. Mathematics</i> | GPA: 3.97/4.0 | |
| Coursework: | Human-Computer Interaction | Building Interactive Machines | Numerical Computing |
| | Intelligent Robotics | Natural Language Processing | Computer Graphics |

RESEARCH EXPERIENCE

Yale Computer Science Dept. *Research Assistant* June - present, 2021

- Researched the interaction between pedestrians and an interactive display on the street; implemented a tracking function using the Hungarian algorithm to improve tracking the person identifiers to associate people between consecutive frames
- Mapped a person's location, velocity, and positions of human body joints to the engagement labels; trained machine learning models on manually annotated data to automatically generate engagement labels
- Employed multiple machine learning models including graph neural networks, on labeled data to decide whether the person will engage, and predict how long it takes before the person starts engagement
- Achieved high accuracy of the engagement classification task; seeking effective regression models to improve the accuracy of future engagement time prediction; related paper is being composed and targeting top conferences

PROJECTS

Multi-Module Reinforcement Learning from User Feedback Fall, 2021

- Built an interactive photo-taking robot using a multi-module reinforcement learning method and training on explicit human feedback to achieve multiple objectives
- Designed four subpolicies to decompose robot's states and actions; Designed survey questions with 7-point scale to measure rewards from user feedback; collected photos and the corresponding evaluation as datasets

MedHacks (MLH Medical Hackathon) *Team Member* Sept, 2021

- Built a Web Application and designed the prototype for a mobile Application to help aged patients under polypharmacy obtain a healthier daily schedule
- Presented the demo to the public and judges at the final expo; won the FastForward U: Best Demo Videos

Using Augmentation to Analyze Natural Robustness in Image Classification Spring, 2021

- Used multiple data augmentation experiments to analyze the natural robustness performance in images classification; Trained on subset of augmented images in ImageNet dataset, and tested on YouTube-BoundingBoxes (YTBB) dataset
- Found that CAE Image Compression augmentation, among the augmentation methods in experiments, achieves the highest classification accuracy on the YTBB dataset and a good improvement of robustness

RCOS (Rensselaer Center for Open Source) - YACS Project *Group Member* Spring 2018

- Used Python and MongoDB to collect and analyze the data on SIS (RPI Self-Service Information System) and YACS (<https://yacs.cs.rpi.edu>) and helped RPI students get information before the registration

The Mathematical/ Interdisciplinary Contest in Modeling Feb 2018

- Proposed a report to analyze the distribution of electric vehicles; created simulation and macro models for the distribution of electric vehicle charging stations; won an Honorable Mention Award

WORK EXPERIENCE

Ericsson, Nanjing, China *Machine Learning Intern* May - Aug, 2019

- Visualized KPI network data of overloaded telecommunication cells; recognized the overloaded telecommunication cells using autoencoder; clustered the graphics using Deep Clustering with Convolutional Autoencoders (DCEC) model
- Shared the clustered graphics with senior engineers to evaluate the clustering performance and label the problems of overloaded cells; presented the results to ~ 20 engineers from other teams in a workshop
- Uploaded all the source codes in the project to the company's git server
- Communicated with European engineers to transfer their machine-learning algorithm to Chinese engineers

Yale Library Preservation Dept. *Software Emulation Configuration Worker* March - Aug, 2021

Tested the access of old database via emulation and reported the issues in emulator trouble shooting

SKILLS

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| Languages | Fluent in Chinese (Mandarin) and English |
| Programming Languages | Python, C++, Java, JavaScript, PostgreSQL, MATLAB, Erlang, MIPS |
| Extra-Curricular Activities | Tennis, piano |