

Xiaoyu Sun

Email: xiaoyu.sun@rutgers.edu

Education

B.S. in Computer Science September 2018 - Present
Rutgers, The State University of New Jersey – New Brunswick, New jersey
Cumulative GPA: 3.82/4.00
Major GPA: 3.95/4.00

Teaching Experience

Recitation Instructor September 2020 - Present
Office for Diversity and Academic Success in the Sciences, Rutgers University

- Fall 2020 - General Physics II
 - Topics include: Electricity, Electric Circuits, Electromagnetism, Optics, Special Relativity, and Radioactivity.
 - Recorded recitation video per week explain homework questions.
 - Held three hours review session weekly for 30+ students
 - Held two hours office hour per week

Research Experience

Research Assistant September 2020 - Present
Department of Civil and Environmental Engineering, Rutgers University

- Assistant to Professor Xiang Liu, conducted research on the topic of "Artificial Intelligence for Next-Generation Intelligent Transportation Systems"
- Applied logistic regression model to help address the inefficiency of the process of inspection in port.

Professional Experience

Junior Founder September 2019 - September 2020
Rutgers Undergraduate Research Journal

- Found the university-wide undergraduate research journal
- Designed a course of peer review in research for new members to familiar with the review process
- Worked with a team of 13 fellow junior founders to form the syllabus for the course we provided
- Reviewed papers in different fields as a reviewer
- Assisted professors to review and given reports to authors with suggestions

Projects

Fast Trajectory Replanning

Summer 2020

Rutgers University

- Implemented path planning with Python. Using several modified A* algorithm to find the shortest path for the agent moves to the goal, in an unknown environment with randomly generalized obstacles.

Face and Digit Classification

Summer 2020

Rutgers University

- Designed two classifiers: a naive Bayes classifier, a perceptron classifier, to do digit recognition and face detection. For digits recognition, both classifiers have accuracy above 60%; For face detection, both classifiers have accuracy above 70%.

Linear Image Classifier

Spring 2020

Rutgers University

- Built a linear image classifier from scratch in PyTorch using CIFAR10 dataset. Implemented both the forward pass and backward pass of the linear classifier without using PyTorch's autograd capabilities.

Neural Machine Translation

Spring 2020

Rutgers University

- Implemented neural machine (NMT) models using recurrent neural network (RNN), long short-term memory (LSTM) with attention, and transformer.

Reinforcement Learning

Spring 2020

Rutgers University

- Implemented algorithm Deep Q-learning (DQN) using OpenAI Gym environments.

Honors

Dean's List, Rutgers University, New Brunswick, NJ

2018 - 2020

Technical Skills

Programming Language: Python, Java, C, mySQL

Framework: Pytorch

Markup: LaTeX, Markdown