

PENGYUAN HUANG

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EDUCATION

Georgia Institute of Technology
Master of Science in Computer Science

August 2021 - Present
GPA: N/A

University of Michigan, EECS
B.S.E. in Computer Engineering

August 2019 - May 2021
Cumulative GPA: 3.840/4.0

Shanghai Jiao Tong University (Dual Degree)
B.S.E. in Electrical and Computer Engineering

September 2017 - August 2019 & May 2021 - August 2021
Cumulative GPA: 3.58/4.0

Selected Coursework: Distributed Systems, Operating Systems, Machine Learning, Computer Vision, Deep Learning for Vision, Mobile App Development

SKILLS

Languages: C++, C, Python, Golang, HTML, CSS, Javascript, SQL, Swift

Frameworks/Tools: React, Flask, Selenium, Vue, Git, Linux, GDB, , OpenCV, PyTorch, ROS, Point Cloud Library

RESEARCH EXPERIENCE

Scene Cache for Video Capture Data Reduction
University of Michigan

September 2019 - September 2020
Instructor: Prof. Robert Dick

- Developed biologically-inspired, motion-related sampling techniques for reducing camera energy consumption while maintaining object detect accuracy for further vision task.
- Reduced the amount of data captured and transferred from image sensors to analysis server.

Attention-Sampling Method for Informative Sampling
University of Michigan

January 2021 – August 2021
Instructor: Prof. Robert Dick

- Developed a multi-scale light-weight neural network that learns attention distribution of large input images and samples and processes a fraction of them based on the learned distribution.
- Conducted vehicle detection experiment on multiple datasets.

Web Automation for End Users by Programing-by-Demonstration
University of Michigan

January 2020 - April 2020
Instructor: Prof. Xinyu Wang

- Developed a software that can record users' actions and synthesize programs to predict subsequent action.
- Created more than 10 web pages with associated ground truth programs and conduct experiments.

PROJECT EXPERIENCE

BuilderX Prototype of Excavator with Automatic Obstacle Avoidance
Capstone Design Program at UM-JI SJTU

May 2021 - August 2021
Sponsored by BuilderX, Inc.

- Designed 3D vision algorithm to capture, fuse point cloud data of the surroundings and detect obstacle.
- Co-Designed collision-free path planning algorithm to move the excavator arms to the desired location.

Map-based Scavenger Hunt AR Game App
University of Michigan

February 2021 - May 2021
EECS 441 Mobile App Development

- led a 5-student team to conduct product design, code development and project management.
- Programmed an iOS app where users can play, design and publish their own scavenger hunt games.
- Implemented features including user info management, map localization, interaction with AR and puzzle solving.

SELECTED HONORS AND AWARDS

1. Silver Award in UM-SJTU Joint Institute Capstone Project Design Exp
2. Dean's List and University Honors at University of Michigan in 2020 and 2019
3. 2017-2018 Shanghai Jiao Tong University Scholarship