

Zilin Wang

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EDUCATION

UNIVERSITY OF MICHIGAN | GPA: 4.00/4.00

M.S. Computer Science & Engineering

August 2021 – December 2022(expected)

Ann Arbor, MI

THE OHIO STATE UNIVERSITY | GPA: 3.947/4.00

B.S. Computer Science & Engineering (AI track), Summa Cum Laude

August 2017 - May 2021

Columbus, OH

TECHNICAL SKILLS

- Math & Statistics: Multivariate Calculus; Advanced Linear Algebra; Probability and Random Process; Engineering Statistics; Ordinary and Partial Differential Equations; Higher Mathematics
- Python, Java, C/C++, Julia, MATLAB, JavaScript, Scheme, SQL, Ruby
- PyTorch(preferred), Tensorflow, Seaborn, Ruby on Rails, Wireshark, Mathematica, Solidworks

ACADEMIC EXPERIENCE

Student Researcher, C. Galban Lab, Michigan Medicine

November 2020 – Present

➤ Supervisor: Dr. Sundaresh Ram, Dr. Craig J. Galban

Ann Arbor, MI

➤ Working on medical image (3D Computed Tomography) segmentation problem, please refer to projects for details

Instructional Aide, SI670 - Applied Machine Learning, University of Michigan

Fall 2021

➤ Supervisor: Prof. Kevyn Collins-Thompson

Ann Arbor, MI

Grader, CSE3521/5521 - Introduction to Artificial Intelligence, The Ohio State University

Spring 2020

➤ Supervisor: Prashant Serai, Joseph Barker

Columbus, OH

PROJECT EXPERIENCE

Pulmonary Artery-Vein Separation in 3D Computed Tomography Images

January 2022 – Present

Advisor: Dr. Sundaresh Ram

Ann Arbor, MI

- Aiming to distinguish arteries from veins that are two types of vessels and are visually similar to each other.
- Trained a graph convolutional network to perform classification on the small number of labeled images.
- Developing models that learn from the much larger number of unlabeled images by self-supervised/semi-supervised approaches.

External Wrench Recovery Using Visual-Tactile Sensors for Robotics Manipulation

September 2021 – December 2021

Advisor: Prof. David Fouhey, Report: same title

Ann Arbor, MI

- Built the first dataset of images from visual-tactile sensors, and they are labeled by the wrench applied to them at the time.
- Presented an effective algorithm that uses optical flow to estimate external wrench from images taken by visual-tactile sensors.

Inspecting Ultrasound Image of Unborn Fetus by Deep Learning Integrated System

May 2021 – July 2021

Supervisor: Prof. Ningbo Zhu, Website: ddx56.com:5000

Changsha, China

- Trained a classification model and an object detection model to recognize specific parts of organs from ultrasound images.
- Proposed a post-processing step for spatial reasoning to accurately assess the imaging quality.

Adaptive Optics-Scanning Laser Ophthalmoscopy Image Analysis Using Deep Learning

January 2021 – April 2021

Faculty Leader: Prof. Rajiv Ramnath, Report: "AO-SLO Image Analysis – Cone/Rod Recognition"

Columbus, OH

- Adopted semantic segmentation techniques to recognize Cones and Rods from retinal AO-SLO images.
- Designed a lightweight fully convolutional network that is data efficient and perform on par with Unet/Unet++.

Verifying the Learnability of Bounded-Convex-Lipschitz Problem

November 2020 – December 2020

Advisor: Prof. Raef Bassily, Report: "Project: Stochastic Gradient Decent"

Columbus, OH

- Given two scenarios of different domain and feature space, implemented stochastic gradient descent algorithm for logistic regression.
- Analyzed the M-bound and ρ -Lipschitz of each scenario, and proved the estimate of expected excess risk is up bounded.

PROFESSIONAL EXPERIENCE

Hunan Infopass Information Technology Co. Ltd.

June 2018 - August 2018

Intern, Technology Department, Intelligent Transportation Systems for Changsha and Wuhan

Changsha, China

- Trained a MCNN model for estimating crowding levels in subway trains in two of China's provincial capitals.
- Tested suitability of images from the train's surveillance cameras for the training dataset by writing test-runs in Python, and drafted guidelines for training dataset selection.

Other Skills

- CITI program certification: Responsible Conduct of Research (biomedical), Human Subjects Protection (biomedical)
- Language: English (fluent, TOEFL MyBest scores 109), Mandarin (native)