Wenhao He

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Skills

Languages: Python, JavaScript, Scala, C/C++, HTML, CSS, LaTeX
Libraries: OpenCV, Sci-kit Learn, Pandas, Numpy, Matplotlib, Scipy
Frameworks: ROS, Hadoop, PyTorch, Tensor-Flow, React, Flask, Pygame, NodeJS
Developer Tools: Jupyter, PyCharm, IntelliJ IDEA, Visual Studio Code, Magicavoxel, GitHub, ZenHub, Git, Docker
Cloud/Databases: AWS, MongoDB, MySQL
OS:Linux, Windows, MacOS

Education

•**University at Buffalo, The State University of New York** *Expected Dec 2023*

Master of Science in Artificial Intelligence

Coursework: Machine Learning, Deep Learning, Computer Vision, Reinforcement Learning, Robotic Algorithm

Award: Graduate Opportunity Program Tuition Scholarships (Sep 2022, Jan 2023, Aug 2023)

•**University at Buffalo, The State University of New York** *Aug 2018 - May 2022*

Bachelor of Science in Computer Science

Coursework: Data Structures, Computer Architecture, Computer Networking, Web Application

Research

•**Audio Cloning: PyTorch, Python** *Aug 2023 - Present*

Engaging in a Deepfake project for cloning judge's voice in civil rights case Brown v. Board of Education

- supervised by Dr. David S. Doermann
- Collaborated with a team of 4 and designed voice cloning model using Deepfake techniques
- Generated recorded voice judges reading court decisions in own voices
- Bringing court documents to life and preserving authentic historical sounds through modern techniques

Projects

•**Monocular Depth Estimation in Single Image: PyTorch, OpenCV, Matplotlib, Python** *Feb 2023 - May 2023*

Conducted a Deep Learning project to ascertain distance between photographer and object in a 3D world.

- Cooperated with a team of 4 and engineered Computer Vision algorithms for feature extraction
- Collected large image-depth map pair datasets for deep-learning model
- Trained a deep learning model for monocular depth estimation
- Measured distance between photographer and object in 3D using an existing 2D image

•**Multiple-agent Playing GoMoku Board Game: PyTorch, Matplotlib, Python** *Mar 2023 - May 2023*

A Reinforcement Learning project trains agents to play GoMoku board game

- Developed Monte Carlo Tree Search algorithm as own model
- Comparison on win rate between own crafted model and present AlphaZero model
- Independently developed and educated artificial agents using a bespoke model and the existing AlphaZero framework to compete against each other

•**Detection on Fruit/Vegetables in 2D Images: PyTorch, OpenCV, Matplotlib, Python** *Mar 2023 - May 2023*

Conducted a Computer Vision project for detecting fruit and vegetables in 2D images

- Identified different categories of fruit and vegetables
- Count total number of fruit/vegetables on each category in different scale sizes image
- Applied Computer Vision knowledge such as edge detection to identify edges and curves in image

•**Class Chat Application: MySQL, Docker, Python, JavaScript, HTML/CSS** *Sep 2021 - Dec 2021*

A Web App project for class-wide social network chat app

- Developed private messages system for users to communicate with class
- Fashioned UI for users to create a profile customization

Experience

•**University at Buffalo, The State University of New York** *Feb 2020 - Mar 2021*

Food Services at Student Union Onsite

- Partnered with a team of 10 employees
- Presented an average of 50 customers and satisfied customer needs per day