

Ian Randman

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EDUCATION

Rochester Institute of Technology, Rochester, NY

M.S., Computer Science (AI Cluster), May 2022, 3.86

B.S., Software Engineering (Immersion in Science and Technology), December 2021, 3.88 (Summa Cum Laude)

TECHNICAL SKILLS

- Languages: Java, Python, MATLAB, PHP, JavaScript, C, C++, Ruby, HTML
- Databases: MySQL, Oracle, MongoDB, PostgreSQL, JanusGraph
- Machine Learning: TensorFlow, Keras, PyTorch, scikit-learn, pandas, NumPy, NLTK, Reinforcement Learning
- Tools & Other: OpenCV, Computer Vision, Flask, Spring, ORMs, Docker, Google Cloud, Project Management

PROJECTS

Increasing Robustness of Monocular Depth

Estimation with Pictorial Cues (*capstone*)

Mitigate model overreliance on particular depth cues.

- Targeted shading, vertical position, and apparent size through data augmentations.
- Tools: PyTorch, OpenCV

WebCheckers (*in class*)

Web-app to allow users to play checkers over a network.

- Followed Scrum methodology to provide four iterative releases.
- Provided documentation of project structure, including design decisions, UMLs, a domain model, statechart, and state diagrams.
- Wrote a minimax AI for the game.
- Tools: Java, JavaScript, CSS, HTML

OURepository (*senior project*)

Web-app for researchers to share and perform object detection on images from unmanned aircraft.

- Provided method for training object detection model on arbitrary annotated imagery.
- Utilized research computing cluster.
- Redesigned existing web-app to provide controlled access to data.
- Tools: TensorFlow, React, PHP

Reward Modeling from Human Preferences (*in class*)

Reproducibility study on learning the reward function for reinforcement learning guided by human feedback.

- Addressed agent alignment problem.
- Used advantage actor-critic (A2C) algorithm.
- Tools: OpenAI Gym, Keras, scikit-learn

WORK EXPERIENCE

AUTEL Automotive Intelligence, San Jose, CA

Perception Software Engineer Intern (August 2021 - December 2021)

- Developed script to evaluate sensor fusion output and created associated visualization.
- Investigated solutions to detect 3D bounding boxes from LiDAR point clouds to replace hand-labeled ground truth.
- Researched depth estimation techniques while using CARLA simulator as input.

Quantiply Corporation, San Jose, CA

Software Engineer Intern (July 2019 - December 2019)

- Developed RESTful API to store entities within banking system (customers, external parties, addresses, etc.).
- Implemented graph of these entities to gain insights of relationships.
- Developed processors to retrieve 3rd-party data for individuals and organizations in an automated data pipeline.

Rochester Institute of Technology, Rochester, NY

Research Assistant (May 2020 - December 2020)

- Used Grounded Theory to help develop understanding of attack surface of software applications.
- Assisted with coding Common Vulnerabilities and Exposures (CVE) in the context of Grounded Theory.
- Developed web-app to organize this coding.

Rochester Institute of Technology, Rochester, NY

Academic Success Center Tutor (August 2018 - May 2022)

- Worked with fellow students who need help with course material.
- Assisted with algebra, pre-calculus, calculus I and II, applied statistics, discrete math, physics I and II.

ACCOMPLISHMENTS

Bike Ride from Florida to Alaska (2022)

Rode bicycle 6,265 miles and led the #1 fundraiser for Tackle Kids Cancer at over \$8,000.

Boy Scouts of America: Eagle Scout (2017)

Lead 15+ volunteers to renovate a high school courtyard after raising ~\$6,000.