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: Python, Java, MATLAB, C, C++, PHP, JavaScript, Ruby, HTML
- Machine Learning: PyTorch, TensorFlow, scikit-learn, LangChain, pandas, NumPy, Reinforcement Learning
- Databases: MySQL, Oracle, MongoDB, PostgreSQL, JanusGraph
- Tools & Other: LLMs, OpenCV, Computer Vision, Flask, FastAPI, ORMs, Docker, AWS, GCP

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

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

OURepository *(senior project)*
Web-app for researchers to share and perform object detection on images from unmanned aircraft.
- Provided automated method for training object detection model on arbitrary annotated imagery.
- Redesigned existing web-app to provide controlled access to data and utilize GPU cluster.
- Tools: TensorFlow, React, PHP

WORK EXPERIENCE

Semandex Networks, Princeton, NJ
Machine Learning Engineer (March 2023 - Present)
- Revamping LLM-based service to increase throughput ~10x and leveraging tools such as structured output.
- Researched and fine tuned CLIP models, created evaluation, and productionized semantic searching service.
- Created image clustering service based on BERTopic and made open-source contributions.
- Implemented text and image-based searching and object counting using segmentation models.
- Enhanced document topic modeling, summarization, OCR, and image captioning using LLMs.

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.
- Implemented 3D object detection from LiDAR point clouds to replace manual 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.
- 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 better understand attack surface of software applications.
- Analyzed Common Vulnerabilities and Exposures (CVE) using custom web-app.

Rochester Institute of Technology, Rochester, NY
Academic Success Center Tutor (August 2018 - May 2022)
- Worked with fellow students on course material.
- Assisted with algebra, calculus, statistics, discrete math, physics, computer science.

ACCOMPLISHMENTS

Bike Ride from Florida to Alaska (2022)
Rode bicycle 6,500 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.