Jason Yen

jasonyen@umich.edu
330-888-3936

Education

University of Michigan | College of Engineering — Ann Arbor, MI
Bachelors in Computer Science — Aug 2022 – May 2025

- Cumulative GPA: 3.94
- Coursework: DSA, Machine Learning, Web Systems, Databases, Computer Organization, Computer Vision, Statistics
- Awards: Engineering Merit Scholarship, William J. Branstrom Prize, Dean's List, National Merit Scholarship Finalist

Experience

University of Michigan | AI Laboratory — Ann Arbor, MI
Research Assistant — Dec 2023 – Present

- Reviewing existing research of machine learning for predicting patient risk and aiding physicians in clinical settings.
- Simulating the use of an expectation maximization approach to mitigate the effects of label bias in under tested groups.
- Assessing fairness in emergency room diagnostic test requests made by physicians using the MIMIC-IV dataset.

ISEE — Boston, MA
Software Engineering Intern — May 2023 – Aug 2023

- Company designing autonomous yard truck systems to improve the safety and efficiency of industrial yard operations.
- Developed and tested a 3D scene reconstruction pipeline to enable the automation of securing air-brake supply lines.
  - Applied structure from motion and deep learning in PyTorch to reconstruct 3D scenes from ZED stereo camera feed.
  - Scenes verify the varying position and orientation of air-brake supply couplers on trailers for a robotic arm to access.
- Extended a web application for viewing reconstructed scenes with TypeScript, React, Node.js, and ThreeJS graphics.
  - Created interactive elements to visualize coupler poses, annotate datasets, and adjust model training parameters.
  - Updated a WebSocket API for communicating data between a remote training server and web client via secure shell.

Leadership

Michigan Data Science Team — Ann Arbor, MI
Project Lead — Sept 2022 – Present

- Led and mentored a team of students to build a word sequence prediction model with LSTM recurrent neural networks.
- Applied convolutional neural networks with transfer learning and data augmentation to classify footwear by category.
- Developed a generative adversarial network in TensorFlow to artificially increase the resolution of low quality images.

Steel Stingers FIRST Robotics — Medina, OH
Programming Lead — Aug 2018 – May 2022

- Built a new computer vision system to track reflective tape on the game field, improving robot positioning and scoring.
- Programmed robot actuator functions, controller inputs, driver dashboard, and drafted software architecture documents.

Projects

- **ClimateHack**: Predicting solar power generation via gradient boosting with satellite imagery and weather forecast data.
- **Search Engine**: Ranks sites by PageRank and TF-IDF scores computed with a multithreaded MapReduce framework.
- **Instagram Clone**: Social media site built with React, Flask, and SQLite to manage REST API requests and sessions.
- **Movie Review Sentiment**: Classification with n-gram frequency, SVMs, and hyperparameter tuning in Scikit-learn.
- **Drone Simulation**: Simulates a fleet of drones coordinating to aid forest firefighting by scouting and carrying cargo.

Skills

- **Development**: C++, C, Python, Java, SQL, JavaScript, HTML, CSS, React, Flask, Node.js, Bash, Make, Regex, ROS
- **Data Science**: R, PyTorch, TensorFlow, Scikit-learn, XGBoost, NumPy, Pandas, Matplotlib, OpenCV, Streamlit, Matlab
- **Platforms**: Linux, MacOS, VSCode, Jupyter Notebook, Amazon Web Services (AWS), Microsoft Office, LabVIEW