Akash Shetty

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Education

University of Michigan — Ann Arbor, MI
Masters in Signal Processing and Machine Learning — *Aug. 2024 - Dec. 2025*

University of Washington — Seattle, WA
Bachelor of Science in Electrical and Computer Engineering — *Sep. 2020 – Jun. 2024*

- Purple and Gold Scholar, Deans List
- **Organizations:** Brazilian Jiu Jitsu, Volleyball

Relevant Coursework

Machine Learning • VLSI for Machine Learning • Neural Engineering • Digital Signal Processing • Linear Algebra • Statistics • Data Structures and Algorithms • Systems Engineering • Applied Math • Multi-variable Calculus • Circuit Theory • Embedded Systems • Network Security

Experience

AI Engineering Intern — June 2023 – August 2023
Raytheon Technologies

- Developed an autonomous vehicle using Reinforcement Learning and a Convolutional Neural Network to interact with the vehicles system
- Created the Convolutional Neural Network for autonomous vehicle line tracking achieving a 92 percent accuracy
- Initiated a project on the use of computer vision for anomaly detection using the segmentation of objects and splitting an image apart
- Skills Developed: Python, TensorFlow, PyTorch, scikit-learn, OpenCV

Electrical Engineering Research Assistant — May 2022 – Oct. 2022
Sensors Energy and Automation Laboratory

- Collaborated with a team of 6 to utilize single-walled carbon nanotube sensors
- Improved sensitivity to irritant gasses in comparison to available laboratory grade sensors
- Utilized an ESP32 micro-controller and created a user interface to facilitate the testing and use of our sensor
- Skills Developed: micro-controllers, NumPy, Matplotlib, multi-threading

Projects

Alaska Center for Energy and Power Capstone | *Python, GCP, LLM, React, Flask, Docker*

- Developed a Retrieval-Augmented Generation (RAG) model for energy researchers, optimizing database processing
- Automated data extraction, organization, and analysis, significantly increasing efficiency and accuracy for energy researchers

DubHacks Project | *Python, React, Flask*

- Finalist in DubHacks hackathon
- Designed and programmed with a team of 4 a search engine to provide research papers and metrics on reliability from long form text and information with the use of OpenAI API and Semantic Scholar API

FPGA Conways Game of Life | *Verilog, Quartus*

- Developed and implemented Conway's Game of Life using Verilog on an FPGA, driving a custom LED board to display the cellular automaton
- The project involved designing the game logic, optimizing performance for real-time updates, and managing hardware constraints for efficient resource utilization.

Game Reinforcement Learning Agent | *Python, OpenAI Gym, PyTorch*

- Creating a Reinforcement Learning Agent in the popular game League of Legends using a custom OpenAI gym environment

Technical Skills

Languages: Python, Java, C/C++, SQL, Verilog, LaTeX
Developer Tools: Git, VS Code, QuantConnect, PyCharm, IntelliJ
Libraries: TensorFlow, Keras, Pytorch, NumPy, pandas, Anaconda, Matplotlib, scikit-learn, OpenCV