Ayman Reza *Software Engineer | Data & Machine Learning*

aymanreza11@gmail.com 2246164120 40 Cambridge Drive, Grayslake IL Ayman Reza Portfolio

Education

Jan 2026 – Present
Champaign, Illinois
Master of Engineering (M.Eng), Electrical & Computer Engineering, *University of Illinois Urbana-Champaign*
Concentration: Machine Learning, Software Systems, Data-Driven Engineering

Aug 2022 – Dec 2025
Champaign, Illinois
B.S, Computer Engineering, Business Minor| GPA: 3.42, *University of Illinois Urbana Champaign*
Relevant Coursework: Machine Learning, Statistical Inference for Engineering & Data Science, Statistical Learning Theory, Cloud Computing Applications, Artificial Intelligence, Data Structures & Algorithms, Database Systems

Professional Experience

May 2025 – Aug 2025
Niles, United States
Software Controls Engineering Intern, *Shure Incorporated*
- Debugged embedded software and firmware by tracing event logs, sensor data streams, and control logic to identify race conditions and logic faults.
- Wrote Python-based tools/scripts to automate test workflows, analyze results, and support automated testing and validation.

May 2024 – Aug 2024
East Chicago, Indiana
Software Systems Engineering Intern, *Cleveland Cliffs*
- Analyzed machine logs and sensor data to diagnose software-driven failures in automated systems.
- Developed diagnostic scripts and control logic to detect fault conditions and reduce unplanned downtime.
- Collaborated with engineers to validate fixes through controlled testing and data-driven verification.

Dec 2025 – Present
Remote
Machine Learning Evaluation Fellow (Part-Time), *Handshake*
- Provided technical evaluations and training data to improve machine learning model reasoning, accuracy, and task performance.
- Analyzed model outputs and provided structured feedback to improve reasoning quality and reliability.
- Worked with large datasets and automated evaluation pipelines.

Skills

Languages — Python, C, C++, SQL, JavaScript, RISC-V, SystemVerilog | **Systems** — Linux, Operating Systems, Memory Management, Git | **Frontend** — React, HTML, CSS | **Backend & Data:** — Node.js, REST APIs, MongoDB, Google Cloud Platform, PyTorch

Projects

Dec 2025
Plant Monitoring App, *Full-Stack Web Application using SQL and Google Cloud Platform*
- Built a full-stack web application enabling users to log, track, and visualize plant growth and care data.
- Designed RESTful backend APIs and relational SQL database schemas for persistent data storage.
- Developed a responsive frontend in React, HTML, and CSS to support dynamic user interaction.

Jan 2025
Operating System (OS) Development, *Systems Programming in C*
- Designed and implemented core operating system components in C, including memory management, multithreading, and filesystem support.
- Developed file system support and process control functionality, debugging in a low-level environment.
- Strengthened problem-solving and system-level programming skills through large-scale collaborative coding project.

Dec 2025
E-Bike Crash Detection & Safety System, *Data-Driven Embedded Software in C*
- Developed real-time crash-detection firmware on an ESP32-S3 using accelerometer/gyroscope data, sensor fusion, and complementary filtering to classify crash events in C, integrated into a custom PCB.
- Built modular embedded software for IMU data acquisition, filtering, event detection, and calibration; validated performance through bench testing and iterative refinement.

May 2025
Curing and Forming Machines, *Software Control & Process Optimization*
- Developed and optimized program for a Forming Machine that shapes gold film diaphragms and a Curing Machine that bonds diaphragm rings with adhesive.
- Diagnosed and resolved software and control issues to minimize downtime.

Dec 2024
JetPack Joyride, *Game & Systems Project in SystemVerilog and C*
- Designed and implemented a System-on-Chip (SoC) on an FPGA, featuring a custom CPU core, VGA controller for 2D scrolling graphics, and efficient memory systems for sprites and collision detection.
- Integrated hardware-software co-design using SystemVerilog and C to develop gameplay mechanics, score tracking, and USB keyboard controls for interactive gameplay.

Organizations

Feb 2023 – Nov 2024
Champaign, Illinois
Phi Kappa Psi Fraternity, *Philanthropy Chair*
- Led planning of fundraising and philanthropy initiatives, coordinating and managing teams
- Communicated with chapter leadership and external partners to ensure successful event outcomes

Jan 2024 – Dec 2025
Champaign, Illinois
Institute of Electrical and Electronics Engineers (IEEE), *Member*
- Participated in a variety of events aimed at technical skill enhancement, including tech talks, workshops, and information sessions led by industry professionals.
- Engaged in socials and other networking events to build connections with peers and professionals in the electrical and computer engineering fields.