Azim Usmanov

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Education

Northwestern University Expected 2027

B.S. Computer Engineering, Minor in Machine Learning *Evanston, IL*

- **GPA**: 3.79/4.00 | **Honors**: Dean's List: Winter 2024, Spring 2024, Fall 2024, Winter 2025, Spring 2025
- **Relevant Coursework**: Microcontrollers, Probability, Computer Systems, Data Structures & Algorithms, Machine Learning, Multivariable Calculus, Engineering Analysis (Linear Algebra, Differential Equations)

Experience

ComEd June 2025 – August 2025

Operations Control Intern *Joliet, IL*

- Engineered VBA script to automate Excel-to-Access data flows via sharepoint, reducing processing time by 40%
- Updated customer counts for 20+ substations and their accompanying feeder lines on SCADA, via OMS data
- Translated 500+ pages of switch numbering records into modern Excel sheet, reducing manual lookup time by 50%

Sensify Recycling November 2024 – Present

Junior Mechatronics & Software Intern *Evanston, IL*

- Developed a testing script to compare image classification accuracy and response time of various LLMs via API endpoint calls, revealing that local model deployment offered superior latency and reduced company costs by 20%
- Engineered main Python script, detects objects, displays bounding boxes, captures image of item to be discarded
- Programmed object detection pipeline in Python for Raspberry Pi, storing images to local storage and AWS S3

Outlier AI June 2024 – Sep 2024

LLM QA Analyst *Remote*

- Examined AI prompts and evaluated responses, both for single-turn and multi-turn conversations from real users
- Completed over 70 Reinforcement Learning From Human Feedback evaluation tasks (comparing two AI responses, assessing accuracy and success rates based on user queries, and justifying given feedback based on a specific rubric)
- Analyzed success of 3 LLM models in regards to real-time coding feedback, provided the model with sample code, requested it to perform several tasks (adding inline comments, finding errors, etc), assessed model responses

Projects

Iron Man Gauntlet | *C, Microbit v2, Breadboarding & Soldering* March 2025 – June 2025

- Constructed a replica Iron Man Gauntlet using Microbit, protoboard, modified 3D-printed SDK files, and a glove
- Developed drivers for LSM303AGR accelerometer, flex sensors, and pressure sensors to detect 3 distinct inputs
- Wrote main C program to continuously monitor inputs via voltage changes and sensor register reads, triggering one of three outputs—rainbow LEDs, 1W LED, or speaker—based on detected gestures, with ≈90% accuracy

MizaAI (Wildhacks 2025) | *Python, OpenCV, Gemini API, Chrome Extension* April 2025

- Collaborated in a team of 4 to build a study tracker that generates personalized dashboards from voice prompts using Gemini API, and tracks focus via Chrome extension tab logging combined with OpenCV eye-tracking
- Classified visited websites as productive or unproductive, displayed session summaries with visual feedback

Audio Spectrum Visualizer | *C, ESP32, Arduino* October 2024 – December 2024

- Built a real-time audio visualizer using a 64×32 LED matrix and FFT-based audio signal filtering on the ESP32
- Replaced analog filters with digital FFT processing, mapping microphone input to LED output over I^2C

The Pancake | *Mechanical Design, CNC Fabrication* March 2024 – June 2024

- Prototyped and presented a discreet tricycle stabilization attachment for a client with cerebral palsy
- Collaborated with users to test and iterate on the device; custom-fit using CNC milling and shop tools

Campus Bus Tracker | *C++, API* February 2024 – March 2024

- Integrated OpenStreetMap API to display live bus times and campus navigation for 200+ buildings and 20+ stops

Skills and Interests

Languages: Java, Python, C/C++, SQL, JavaScript, HTML/CSS, MATLAB, Bash, LaTeX
Tools/Technologies: Git, GitHub, Google Cloud, VS Code, OpenCV, Valgrind, Tailscale, VNC, SSH, Microsoft Office
Other Interests: Basketball (NY Knicks), Sailing, Weightlifting, Digital Music Composition, Skiing, Rail Systems