Mandy Liu

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Education

New York University, New York, NY, USA — Expected Graduation Date: May 2026

Bachelor of Science, Computer Systems Engineering; Minor in Interactive Media Arts — *GPA*: 3.86/4.00

- *Relevant Coursework*: Embedded Systems, Parallel Computing, Electronics, Digital Fabrication, Machine Learning
- *Awards*: Dean's List, NYU Shanghai 2025 Recognition Award, NYU Shanghai Scholarship UG

Skills & Tools

Programing Languages: Python, Javascript, Java, C, C++, HTML

Libraries: CUDA, Qiskit, YOLOv8, Qwen3, Pandas, Numpy, pyTorch, Jupiter Notebook

Tools: VS Code, Linux, Cadence, Altium, HPC, Arduino, Overleaf, Git, Blender, Unity, Davinci Resolve, Rhino, Grasshopper

Work Experiences

NomadX Holdings, New York, NY — February 2025 to May 2025

Data Science Intern

- Worked to develop 2 machine learning programs for early detection of bacteria growth within consumer products
- Reviewed over 100+ spectrum data of food pathogens to identity their patterns and traits
- Modified previously published model to create a hybrid CNN and random forest model and improved performance results by 4% positive classification

NYC Department of Housing and Preservation, New York, NY — July 2025 to August 2025

Data Entry Clerk

- Processed and verified approximately 150 housing code violation records daily using HPD's internal system (BOSS and APADMIN functions), maintaining 98%+ accuracy rate
- Collaborated closely with 10 inspectors and 2 admin staff to resolve discrepancies and maintain database integrity for enforcement and compliance operations
- Contributed to a 15% reduction in backlog by streamlining entry workflows and prioritizing high-volume case batches

Fuzhou America, New York, NY — August 2024 to January 2025

Web User Interface Volunteer Developer

- Designed and developed a user-friendly website to enhance outreach and provide accessible information about the nonprofit's mission and programs, successfully increasing user engagement by 25%
- Coordinated with 20+ keynote speakers at 2 Fuzhou America conferences to resolve technical difficulties with AV equipment and presentation media, successfully supporting an audience of 200+ attendees

Lavner Education, Philadelphia, PA — June 2023 to August 2023

Summer Classroom IT Intern

- Delivered hands-on instruction in TinkerCAD and 3D printing, guiding 30+ students through project design and ensuring error-free prints using slicing software
- Used Minecraft as a teaching tool to introduce coding concepts; implemented Java-based modifications to restrict unauthorized actions and maintain a safe learning environment to 20+ students

Projects

Command-Controlled Robot Dog Using VLM | Unitree Go2 Robot, MuJoCo, Python, Qwen3, YOLOv8 — September 2025 to Present

- Engineered a Vision-Language-Action (VLA) pipeline on a Unitree Go2 robot using Python, integrating Qwen3-VL for semantic reasoning and YOLOv8 for real-time object tracking
- Developed a hierarchical control loop that synchronizes slow AI decision-making with 30Hz real-time sensor data, ensuring collision-free movement despite model lag

Parkinson Tremor Detection Device | C++, Platform IO, AdaFruit Playground Circuit — April 2025 to May 2025

- Designed and implemented a continuous tremor detection device for Parkinson's patients using Adafruit components and PlatformIO to monitor dyskinesia and off-time symptoms, triggering visual and audible alerts upon detection
- Integrated sensors including NeoPixels, piezo speaker, and LCD screen to provide real-time feedback and status updates

Spotify Music Genre Classification Model | Pandas, Numpy, pyTorch, Jupiter Notebook — April 2025 to May 2025

- Preprocessed music feature (liveness, loudness, key, etc.) of 50k songs based on dimension reduction techniques such as PCA, t-SNE, and KL divergence
- Cross validated random forest parameters related to number estimators, maximum depth and samples to achieve a performance result of 93.3% positive classification rate in a dataset where many genres shared similar characteristics

DIY EKG Monitor Device | Cadence, Altium, SMD Soldering — September 2024 to December 2024

- Implemented PCB schematics using Cadence to simulate and verify circuit operation, including Notch filter, Instrumentation amplifier (IA), Bandpass filter, Driven Right Leg circuitry (DRL), and numeric value of components
- Designed PCB layouts in Altium to ensure proper wiring of SMD components and manufacturability, then soldered components, tested with human pulse signals, and verified functionality using an oscilloscope