

# XINGYU MU

(929) 494-8412 · xm2204@nyu.edu · github.com/Heterohabilis · linkedin.com/in/xyum

## EDUCATION

---

**New York University, Tandon School of Engineering**

Graduation: May 2025

*Major: B.S. Computer Science, Minor: Electrical Engineering*

**Cumulative GPA:** 3.98

**CS and EE Coursework:** Data Structures and Algorithms, Object Oriented Programming, Computer Architecture, Algorithm Analysis, Fundamentals of Electric Circuits, Introduction to Machine Learning, Operating Systems, Java and Web Programming, Software Engineering, Signal and System, Digital Logic, Computer Networking, and Electronics I: Analog Circuits.

**Math Coursework:** Calculus, Data Analysis and Probability, Discrete Mathematics, Linear Algebra and Differential Equations

**Affiliations:** Data Analytics Visualization Group @ NYU Tandon, Research Assistant @ NYU AI4ce Lab

## EXPERIENCE

---

**Teaching Assistant, CS-UY 3224: Operating System**

Sep. 2024 - Present

- Grading coursework and exams of over 150 students weekly for one of NYU's largest mid-to-high-level CS courses
- Leading 1-2 hours of office hours weekly to answer student questions on C, assembly, multithreading, paging, etc.
- Compiling a weekly FAQ report for the professor

**CVIC Software Engineering Co., Ltd., Software Engineering Intern**

Jul. 2023 - Aug. 2023

- Developed camera driver program for highway plate recognition, distance calculation, and billing system
- Optimized billing algorithms for response time
- Built C++/Qt GUI to enhance usability and accessibility

**New Oriental Education Group Inc., AP CS A Course Staff**

Jun. 2022 - Aug. 2022

- Supported students' Java programming learning
- Graded and explained assignments to enhance understanding

**Industrial and Commercial Bank of China, Data Analysis Intern**

May 2021 - Aug. 2021

- Cleaned internal banking data using Excel
- Analyzed data using NumPy and created visualizations via Pandas
- Produced a highlight video in Adobe Premiere

## LEADERSHIP & PROJECTS

---

**VOC Leakage Detection Robot Developer @ NYU UGSRP**

Summer 2024 - Present

- Built Jetson Orin Nano robot to detect VOC leaks
- Used CNNs (ResNet-18, AlexNet) to infer leak distance from concentration plots with 90-95% accuracy
- Created ethanol leak simulations with SGP-40 sensors
- Suggested mechanical and sensor elevation improvements
- Ran tests in biosafety level 2 lab

**MapNYC @ NYU AI4ce Lab**

Spring 2024 - Present

- Built street point cloud dataset using LiDAR and camera sampling in Manhattan
- Monitored, debugged, and enhanced device collection stability via SSH
- Integrated dataset via ROS

## **E20 Processor and Cache Simulators**

Fall 2023

- Simulated E20 processor and two-level cache in C++
- Implemented both write-back and write-through policies

## **Data-Analytics-Visualization VIP, NYU Tandon**

Fall 2023 - Present

- Applied Big Query and Looker for multi-source data visualization
- Created Mars image email fetcher using NASA + SendGrid API

## **Distributed Query Engine “Quokka”**

Summer 2023 - Present

- Investigated S3-based indexing with DiskANN (Vamana)
- Developed online DiskANN implementation

## **Voice Recognition Appliance Project**

Jun. 2021 - Jul. 2021

- Designed smart dryer using voice API + sensors
- C-programmed controller and earned a utility patent

# **SKILLS**

---

**Programming Languages:** Python, Java, C, C++, C#, MySQL, Verilog, Rust, Cuda-C, MATLAB, x86-64 Assembly, Javascript/React

**ML/Data:** NumPy, TensorFlow, Pandas, PyTorch, Big Query, Looker, Google Cloud, Principles of Transformer/ LLM

**Tools/Systems:** Git, Linux, Docker, VS Code, Shell, LaTeX, Markdown, ROS, GDB, Vivado, Jupyter

**Hardware/Robotics:** Jetson Orin Nano, Jetson Bot, Arduino, Raspberry Pi

**Languages:** English, Chinese

**Hobbies and Interests:** Historical Linguistics, Gym, Hiking, Reading