Raymond Xu

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Education

Northeastern University Boston, MA

Bachelor of Science in Computer Engineering & Computer Science, Minor in Mathematics *Sep. 2024 – May 2028*

- **GPA: 4.0/4.0**, Dean's List, Rev Cohort 4, Eta Kappa Nu
- Relevant Coursework: Algorithms & Data, Computer Systems, Object-Oriented Design, Embedded Design

Experience

Software Engineer Intern Jul. 2025 – Aug. 2025

Mosaic (YC W25) *San Francisco, CA*

- Optimized agentic video editing pipeline by 40% by redesigning a React Flow-based node editor with pausing, selective restarts, and internal versioning for real-time debugging.
- Built a Remotion-based video editor in TypeScript/Next.js with synchronized timeline and inspector, boosting render performance by 80% and enabling multimodal video agent iteration.
- Built FastAPI endpoints to manage Supabase data and orchestrate Gemini API calls for agent reasoning.

AI/ML Fellow Apr. 2025 – Present

Break Through Tech *Cambridge, MA*

- Selected from 3000+ applicants for 12-month program at MIT including ML coursework with Cornell faculty.
- Partnered with MathWorks on Human Motion Recognition project using IMU data; applied sliding window segmentation on HARTH dataset and trained Random Forest model with 94% accuracy in activity classification.
- Developed Next.js/FastAPI app for real-time activity classification using IMU sensor data from MATLAB app.

Section Leader Apr. 2025 – May 2025

Stanford University: Code In Place *Remote*

- Led a 1-hour weekly live section over a 6-week program to cohorts of 10–15 international students.
- Guided students through Stanford's CS106A-based modules covering Python fundamentals: variables, control flow, functions, lists, and dictionaries, contributing to an overall program completion rate of 90%+ in my section.

Projects

Real Time ASL Translator | *Next.js, FastAPI, OpenCV, MediaPipe, ElevenLabs,* Oct. 2025 – Nov. 2025

- Developed a real-time ASL recognition and translation app with hand and face tracking for HackHarvard 2025.
- Built a MediaPipe Hands model with 94% classification accuracy across 25+ gestures using a FastAPI backend.

Classroom Copilot | *Next.js, FastAPI, LangChain, Supabase, Gemini* Jul. 2025 – Sep. 2025

- Built an AI agentic learning platform for class-wide analytics for and personalized feedback for HackMIT 2025.
- Developed LangChain agents in FastAPI with Supabse vector store and RAG pipelines for analyzing submissions.
- Integrated PDF ingestion with LangChain's PDF loader and vector search for context-aware, structured feedback.

SpendShield | *TypeScript, Next.js, Supabase, Shadcn* Feb. 2025 – Mar. 2025

- Built a viral social finance app that gamified saving and peer accountability, reaching top 5 at HackIllinois 2025 by increasing projected user retention by 60% through competitive spending challenges and progress sharing.
- Developed a full-stack system using TypeScript, Next.js, and Supabase, enabling rapid prototyping and supporting 100+ concurrent user actions.

SVS Lunar Client | *C#, Python, Unity, PyTorch* Oct. 2024 – Nov. 2024

- Developed simulations using Unity's Machine Learning Agents Toolkit to train AI for space vehicle tasks in diverse environments, reducing live-testing risks and winning the "Interstellar Intelligence" track at BostonHacks 2024.
- Boosted model performance by 2.3 times through deep reinforcement learning with Python, PyTorch, and Unity, simulating realistic physics for autonomous navigation tasks.

Technical Skills

Languages: Java, Python, C#, C/C++, JavaScript, TypeScript, HTML/CSS, SQL, Matlab, Lua
Frameworks/Libraries: React, Next.js, Node.js, FastAPI, Flask, Tailwind, NumPy, Pandas, Sklearn, PyTorch, JUnit
Technologies: Git, Docker, Bash, Linux, AWS, PostgreSQL, Supabase, Cursor, Figma, SolidWorks, Unity, Blender
Technical Skills: DSA, AI & ML, UI/UX Design, CI/CD, Data Visualization, CAD, Game Developement, VR/AR
Other Skills: 3D-Modeling, Graphic Design, Editing, Project Management, Social Media Marketing, Teaching