

# Xinwei (Vivian) Xie

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## EDUCATION

New York University Shanghai (NYUSH), China

Expected graduation date: June 2025

Bachelor of Computer Science; Minor in Interactive Media Arts

- Overall GPA: **3.73/4.0**; Major GPA: **3.83/4.0**
- Career Objective: **Human-Computer Interaction Engineer, Product Manager**

## TECH SKILLS

- Programming: Good command of **Python, Java**, and C for algorithm design, and back-end development; Skilled in HTML, CSS, JavaScript, and **Vue.js**, PHP for responsive front-end development; Experienced with **SQLite** and **Flask** for database management; Adept at coding with **three.js**, **processing**, and **p5.js** for creative live coding applications.
- Prototype: **Arduino** micro-controlling; 3D printing and laser cutting modeling for physical computing.
- Machine Learning: CNN, RNN, Linear Regression, Transformer, ml5.js.

## RESEARCH

**Digital Avatar: a Human-AI Collaborated Solution for Online Consultation**

04/2024 – Present

Research Assistant, Supervised by Prof. Chun Yu, Tsinghua University Human-Computer Interaction Lab

**Paper Submitted:** The 27<sup>th</sup> ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2025)

- Led the systematic design of an innovative multi-agent product, pioneering new forms of human-AI collaboration in consulting; facilitated human-like adaptive learning and sustained growth through continuous learning mechanisms.
- Spearheaded the deployment of the product as a mobile application; collaborated with interdisciplinary teams to defining user flow, and API standards; optimized system response speed; developed web interfaces for user testing;
- Designed and executed multi-phase user experiments to investigate expectations of digital psychology products; assessed user trust in AI-generated consultation content; integrated collected insights back into design and development cycles.

**Kiwi: an LLM-powered Learning Assistant for Advanced Coding Education**

09/2024 – Present

Capstone Project, Supervised by Prof. Hongyi Wen, NYUSH

- Developed a personalized learning system utilizing multi-LLMs to integrate various educational materials based on a naive Kiwi system, enhanced personal learning experience in advanced coding courses like Data Structures.
- Designed three methods to enhance Retrieval-Augmented Generation, embedded coursework-specific contextual information to improve the quality of generated responses, resulting in a 15% increase in answer relevance.
- Processed multimodal YouTube open course data, synchronized audio with slide content to construct a comprehensive intention-driven computer science knowledge base, thereby reducing systematic reliance on pre-trained public models.

## PROJECTS

**Online Forum Development**

02/2024 – Present

- Designed, built, and launched a non-profit anime fandom forum from the ground up. Successfully went live in May 2024, now with 5,000+ registered users across 10+ countries and over 500 daily active users.
- Led a 10-person team in managing the forum; conducted user research to identify needs and introduced new features.
- Regularly monitored user engagement metrics, such as traffic and retention rates; adjusted algorithms and product strategies to enhance user activity.

**Flexible Congestion Tax for New York City**

11/2023 – 12/2023

- Utilized data analysis, and data visualization to prove the effectiveness of adopting a dynamic congestion tax for New York City aimed at reducing traffic congestion, addressed equity issues for the tax among different income groups;
- Implemented the Spatio-Temporal Graph Convolutional Network for peak-hour traffic simulation with flexible taxing.

**Pickup Robot**

03/2022 – 05/2022

- A self-designed line-tracking robot with folding arms to make carrying large tool kits around the campus lab portable
- Prototype: Arduino control with a tank robot; 3D printing and laser cutting for telescopic arm design;
- Technique: PID error correction algorithm for enhanced line tracking; trained Pixy camera model for object recognition;

## INTERNSHIPS

**SoundCool Project Maintenance** | Front-End Developer Intern

05/2024 – 08/2024

- Maintained SoundCool website using React.js, focusing on package and syntax updates to enhance system performance.

**Sun Car Online Insurance Service Co.,Ltd** | Front-End Developer Intern

06/2022 – 08/2022

- Utilized Vue.js to develop coupon advertising interfaces based on UI graphs for the Tuniu car service App.