Jinran Ye

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EDUCATIONS

New York University, Shanghai, China 09/2021 – 06/2025

- **Major** in Interactive Media Art and **Minor** in Computer Science
- **Overall GPA** 3.860 and **Major GPA** 3.957 out of 4.0
- **Bachelor of Science** expected in June 2025
- **Dean's Honor List** for each academic year
- **NYU Shanghai Dean's Undergraduate Research Fund** Recipient
- **NYU Abu Dhabi Research Award Scholarship** Recipient

RESEARCH EXPERIENCES

NYU Shanghai Digital Heritage Lab 09/2024 – present

Research Assistant for Research on converting archaeological images to 2D line sketches using stable diffusion

- Apply fine-tuned Stable Diffusion models to draw archaeological sketches from orthographic view images
- Optimize the pipelines by experimenting with new models and algorithms, enhancing output quality and efficiency
- Compare generated images with human drawings and draft benchmarks of the system performance

NYU Abu Dhabi Mang Lab 02/2024 – 05/2024

Research Assistant

- Studied fabrication techniques applicable from *Guqin for String Things*, a SIGGRAPH 2024 Lab project
- Developed a calligraphy redrawing system, using Stable Diffusion to transform calligraphy
- Built batch generation workflows in ComfyUI, enhancing parameter fine-tuning efficiency by 90%
- Replaced twelve nodes with four Python functions in TouchDesigner to enhance project maintainability
- Used SSH to set up PyTorch and CUDA environments on eight lab computers for AI research

PROJECTS

Group Project for NYU Shanghai Dean of Undergraduate Research Fund 07/2024 – 10/2024

Live-Diffusion – A real-time multimodal AI image generation system

- Fine-tuned Stable Diffusion workflows to create AI-generated visuals based on environmental and camera data
- Designed and fabricated hardware to collect sensor data and send with serial to TouchDesigner for real-time input
- Extended accessibility by deploying an intuitive interface and translating AI jargon for non-technical users

Group Project for *Space Challenge Topics: Sustainable Space* 07/2024 – 08/2024

Aegis – A design of space maintenance drone for satellite repairing

- Migrated and fabricated the surgical robotic controller and arms using Arduino board and servo motors
- Experimented ION propulsion system using a high voltage battery pack and metal rings
- Programmed robot arms to enhance functionality and reliability

Individual Project Exhibited in *Gaudi: Moment is Eternity* Exhibition 03/2024 – 10/2024

Gaudi-Vision – An interactive system converting user-uploaded images into Gaudi architecture style

- Tailored fine-tuned Stable Diffusion and LoRA model for reproducing Gaudi's aesthetic
- Completed full-stack development including UI/UX, Database, local server and image generation pipelines
- Installed and deployed the system, attracted over 15,000 audience and processed more than 10,000 images

Individual Project for Course *Nature of Code* 04/2023 – 06/2023

Beyond the Ink-wash – An interactive digital system recreating the elegance of traditional Chinese ink-wash paintings

- Extended interactivity using modern technology to the Chinese traditional static ink-wash paintings
- Fulfilled particle system programming in p5js to simulate the diffusion of ink on canvas
- Self-programmed nature system that simulates gravity, bouncing, spring forces, and flocking system

Group project for Course *Intro to Robotics* 10/2022 – 12/2022

Cure Monster – A social companion robot designed to support the social needs of children with autism

- Explored the social needs of autistic children which are usually ignored
- Designed the furry exterior and soft stuffing to provide a non-intrusive, comforting experience
- Built a prototype with rp2040, gyroscope, modified touch sensors, servos, and digital fabricated interior framework

SKILLS

Programming & Development: HTML, CSS, JS (p5js, threejs, React Native); Python; C; Processing; GLSL
Interactive Media & Visual: Unity; Blender; TouchDesigner; Photoshop; Premiere; Lightroom; InDesign; Figma
Prototyping & Fabrication: Arduino; Soldering; Digital Fabrication (Laser Cutting, 3D Printing); PCB Design
AI Technologies: ComfyUI; Stable Diffusion (Model Training, Finetuning)