

# Ethan Lin

eyl45@cornell.edu | linkedin.com/in/ethan-y-lin/ | github.com/ethan-y-lin | (415) 858-2659

## Education

### Cornell University

Ithaca, NY

B.S. Computer Science & Electrical and Computer Engineering | **GPA: 4.17/4.0**

Aug 2022 - May 2026

**CS Courses:** Advanced Topics in ML (A+), Computer Vision (A+), Computer Graphics (A+), Machine Learning (A+), Discrete Structures (A+), Computer Systems and Organization (A+), Object-Oriented Programming & Data Structures (A), Functional Programming (A)

**ECE Courses:** Circuits (A), Data Science (A+), Embedded Systems (A), Microelectronics (A+), Probability for Random Signals (A+)

**Upcoming Courses:** Computer Architecture, Signals and Systems, Foundations of Robotics, Practicum in AI, Digital Design Automation

## Research Experience

### Sun Lab | Advisor: Jennifer Sun

Ithaca, NY

Undergraduate Researcher

Aug 2024 - Present

- **Beyond Accuracy: Metrics that Uncover What Makes a 'Good' Visual Descriptor [CVPR 2025]**  
Developed novel unsupervised metrics for evaluating the quality of text-based visual descriptors for image classification with vision-language models.
- **WildFin: A Video Dataset of Fish Behavior In-the-Wild [Under Review at NeurIPS 2025]**  
Conducted baseline evaluations of video and image foundation models on a novel in-situ fish video dataset.

### Cornell Graphics Lab | Advisor: Donald Greenberg

Ithaca, NY

Undergraduate Researcher

Jan 2024 - Aug 2024

- **3D Room Design Planner**  
Explored novel use cases for 3D geometry capture and built a full-stack room layout tool in ThreeJS, designed for senior accessibility.
- **Virtual Reality Research**  
Developed a novel free-hand physics-based grasping method for VR. Implemented a working prototype in Unreal Engine using hand tracking technology in the Meta Quest Pro.

## Teaching Experience

### Cornell University | Teaching Assistant

Ithaca, NY

- **CS 4620:** Introduction to Computer Graphics  
Fall 2025
- **CS 3780:** Introduction to Machine Learning  
Fall 2024 & Spring 2025
- **CS 1620:** Visual Imaging in the Electronic Age  
Fall 2024
- **CS 2110:** Object Oriented Programming and Data Structures  
Spring 2024

## Extracurricular Experience

### Engineers for a Sustainable World | Software Development Sub-Team Lead

Ithaca, NY

- Led the development of a web application that optimizes the distribution of surplus food at Cornell.  
Aug 2023 - Present

### Cornell Cup Robotics | ECE Sub-Team Member

Ithaca, NY

- Collaborated with DigiKey to design electrical systems for accessories to the XRP educational robotics platform.  
Sep 2024 - Dec 2024

## Projects

### DreamLayout | CS 6784 Final Project

- Created a tool for improving creative and editable graphic design layouts using diffusion models.
- Implemented efficient synthetic dataset generation algorithms and trained diffusion models using Pytorch.

### Softbody Physics Simulator | Graphics Creative Project Top Submission (1st / 70)

- Developed a 2D soft-body physics simulator using particle-spring systems to model soft-body interactions.

### Taichi Path Tracer | Graphics Rendering Project Top Submission (Top 5 / 70)

- Built an efficient path tracer from scratch with Taichi.
- Implemented refractions, reflections, BVH speedup structure, and texture and normal mapping.

### Infinite Zelda | Graphics Final Project Top Submission (Top 3 / 70)

- Created a 3D open-world web browser game modeled after Zelda with procedurally-generated terrain.
- Implemented procedural infinite-terrain with Simplex Noise, texture mapping, and efficient grass and tree rendering with instanced particles, shaders, and a height map.

## Technical Skills

**Languages:** Python, Java, C/C++, MATLAB, OCaml, TypeScript, SQL, HTML/CSS

**Frameworks/Tools:** PyTorch, Taichi, React, Flask, ThreeJS, Git, NumPy, Pandas