

YIMING CHEN

(+1) 470-830-4721

danielatlas3455@gmail.com

<https://spectraorder.github.io/>

Education

Georgia Institute of Technology

Atlanta, GA

Master's Degree in Computer Science

2024 - 2026 (*expected*)

- GPA: 4.00/4.00
- Specialization: Machine Learning
- Advisor: James Hays

New York University

Manhattan, NY

Bachelor's Degree in Computer Science and Mathematics

2020 - 2024

- GPA: 3.73/4.00

Publications

1. **Chen, Y.***, Singh, S.*, Chatterjee, A., Raj, A., Hays, J., Yang, Y., & Baral, C. (2026). Chimera: Compositional Image Generation using Part-based Concepting. *Under review at ICLR 2026*.
2. Yang, M., **Chen, Y.**, Pei, H., Agarwal, S., Vasudevan, A. B., & Hays, J. (2025). Clink! Chop! Thud! - Learning Object Sounds from Real-World Interactions. *ICCV 2025*.
3. **Chen, Y.**, Liu, Y., & Kayar-Ceylan, G. (2025). CSG-based ML-supported 3D translation of sketches into game assets for game designers. *The Visual Computer*, 1-13.
4. **Chen, Y.** (2020). A Device for Compressing Garbage in Dustbin. *China National Intellectual Property Administration*, Patent No. CN210823859U.

Presentations

1. **Chen, Y.**, Liu, Y., "CSG-based ML-supported 3D translation of sketches into game assets for game designers", New York University Undergraduate Research Conference, NY, May 2024

Research

Experience

Georgia Institute of Technology Hays-Lab

Research Assistant, Advised by Prof. James Hays

Sep 2024 - Present

- Developing multimodal architectures to learn unified representations that align audio, vision, and language signals for cross-modal reasoning.
- Researching efficient, high-fidelity 3D reconstruction by advancing neural rendering techniques like Gaussian Splatting for real-time applications.

Compositional Image Generation using Part-based Concepting

Research Assistant, Collaboration with Google DeepMind

Aug 2024 - Present

- Focused on enhancing the compositional capabilities of diffusion models to generate novel images from part-based or hybrid concepts.
- Investigating the use of natural language to provide fine-grained, contextual control over the generative process.

Gaussian Visibility Field for Uncertainty Mapping

Research Assistant, Collaboration with NVIDIA

Aug 2024 - Dec 2024

- Developed novel neural field representations by applying Bayesian deep learning principles to map and quantify uncertainty in 3D scenes for autonomous systems.
- Engineered the system for real-time performance by optimizing the neural field's computational efficiency through advanced GPU parallelization and CUDA techniques.

Unity ML-Agents with Walking Robot using Curriculum Training

Research Assistant, Advised by Prof. Jeremy Curuksu

Mar 2024 - May 2024

- Investigated sample-efficient training for embodied agents by integrating curriculum learning with advanced deep RL algorithms (PPO) to accelerate policy convergence.
- Enhanced the agent's navigation capabilities by implementing a ray-based perception system for robust and efficient obstacle avoidance in complex environments.

CSG-based ML-supported 3D Translation of Sketches into Game Assets

Research Assistant, Advised by Prof. Gizem Kaya-Ceylan

May 2023 - Jan 2025

- Developed a computer vision pipeline using Canny edge detection and polygon approximation to extract geometric primitives from sketches.
- Engineered a 3D reconstruction module with CSG Boolean operations to assemble 2D shapes into complex 3D structures.

Industry Experience

Amazon Web Services

Cupertino, CA

Machine Learning Engineer Internship

May 2025 - Aug 2025

- Designed and implemented pipeline parallel processing in NxDI stack for large language models, improving distributed training efficiency by 35%.
- Implemented Sequence Pipeline Parallel to create a prompt parallel architecture for window context encoding, enhancing vLLM inference performance by 2.3x.
- Collaborated with the inference team to optimize distributed tensor and pipeline parallelism, documenting 40% latency improvements using NeuronTransferEngine.

T.C.L. Industries Holdings

Shenzhen, China

Machine Learning Engineer Internship

Jun 2024 - Aug 2024

- Led the development of predictive analytics models using LSTM, increased accuracy from 40% to 90%.
- Developed APIs for the model, making the model efficient to use internally and reducing costs by 35%.
- Integrated the model with Microsoft 365, enabled others to fine-tune different specific prediction models.

Awards

- **Dean's Undergraduate Research Fund**, New York University 2023.09
- **Registration Support Scholarship**, New York University 2022.09
- **Student Relief Scholarship II**, New York University 2022.02
- **Student Relief Scholarship**, New York University 2021.09

Teaching

Teaching Assistant

Georgia Institute of Technology

Computer Vision (CS 6476 A) - Head TA

Fall 2025

Computer Vision (CS 6476 A)

Spring 2025

Teaching Assistant

New York University

Computer Systems Organization (CSCI-UA 201)

Spring 2024

Computer Systems Organization (CSCI-UA 201)

Fall 2023

Great Ideas in Math (CORE-UA 110)

Spring 2023

Algebra, Trigonometry, and Functions (MATH-UA 9)

Fall 2022