Eric Nai-Li Chen

Boston, MA ericnlchen@gmail.com ericnlchen.github.io ericnlchen

Education

MS **Brown University**, Computer Science — Sept 2023 – May 2025
Providence, RI
Advisor: Jeff Huang

BS **UCLA**, Computer Science — Sept 2018 – June 2023
Mathematics Minor
Los Angeles, CA
GPA: 3.84

Publications

L.ink: Procedural Ink Growth for Controllable Surprise — Sept 2025
Eric Nai-Li Chen, Joshua Kong Yang, Jeff Huang, Tongyu Zhou
Proc. ACM User Interface Software and Technology (UIST '25)
10.1145/3746059.3747702

L.ink: Illustrating Controllable Surprise with L-System Based Strokes — April 2025
Eric Nai-Li Chen, Tongyu Zhou, Joshua Kong Yang, Jeff Huang
Extended Abstracts ACM Human Factors in Computing Systems (CHI EA '25)
10.1145/3706599.3720069

Experience

Adobe, Research Scientist Intern — San Jose, CA
Mentors: Li-Yi Wei, Rubaiat Habib Kazi — June 2025 – Sept 2025

- Designing generative tools for 2D special effects animation

Brown HCI Lab, Research Assistant — Providence, RI
Advisor: Jeff Huang, Mentor: Tongyu Zhou — Feb 2024 - May 2025

- Personally invented, implemented, and deployed L-ink: an L-system vector drawing tool empowering artists to create animated organic structures with a single stroke; see *first-author publications in UIST '25 and CHI EA '25*
- Designed direct-manipulation rule editor for intuitive L-system control
- Invented hand-drawn stamp feature to extend L-system's expressive capability
- Conducted user study investigating how controllability & surprise in procedural tools impacts creative workflow of artists

NASA Academic Mission Services, Data Science Intern — Mountain View, CA
Mentors: David Bell, Aditya Das, Milad Memarzadeh — June 2020 - Sept 2021

- Led multi-organizational project creating wildfire machine learning models in collaboration with Civil Air Patrol captain, NASA research scientist, and USRA RIACS Director
- Aggregated data from 600,000 flights across 345 US airports to train end-to-end machine learning pipeline predicting flight delays
- Presented findings in *3 first-author research posters* at NASA Ames poster symposium

Selected Projects

SplatBrush: XR Painting with Gaussian Splats

- Designed WebXR palette and brush interface for interactive 3D painting with Gaussian textures optimized from real-world materials
- Gathered multi-view material dataset using custom capture ring

Differentiable Rendering of Signed Distance Fields

- Implemented Wang et al.'s "A Simple Approach to Differentiable Rendering of SDFs"
- Created animated visualizations of gradient descent in action by optimizing lights, materials, object transformations, and freeform geometry

Hyacinth Labyrinth: A Procedural Hedge-Maze Game

- Built custom L-system engine in Blender and defined configurable JSON format with tunable stem radius, leaf size, branch angle, tessellation levels, and pruning

Video Analogies

- Implemented patch-based style transfer from images to videos, extending Hertzmann et al.'s "image analogies"

MPC: Productive Beauty Without Trust

- Authored illustration for 10th Heidelbeg Laureate Forum's Intercultural Science-Art Project, with a whimsical interpretation of secure multi-party computation as fruit hybridization

Selected Coursework

Brown University: Computer Graphics, Advanced Computer Graphics, Computational Photography, Computer Vision for Graphics & Interaction, Deep Learning, Interaction Design

Rhode Island School of Design: Drawing with Computers

UCLA: Software Engineering, Computer Systems Architecture, Programming Languages, Formal Languages & Automata Theory, Artificial Intelligence, Machine Learning, Data Science, Database Management Systems, Computer Networks, Operating Systems, Algorithms & Complexity, Real Analysis, Set Theory, Category Theory

Skills

Languages: JavaScript/TypeScript, HTML/CSS, C/C++, Python

Technologies: React, OpenGL, TensorFlow

Other: Public speaking, Leadership, 4th Degree Black Belt and ATA Taekwondo World Champion