

DANIEL RITCHIE

dritchie.github.io · daniel_ritchie@brown.edu

EDUCATION

Stanford University

PhD, Computer Science

Dissertation: *Probabilistic Programming for Procedural Modeling and Design*

Advisors: Pat Hanrahan, Noah Goodman

Conferred September 2016

Stanford University

MS, Computer Science

Conferred April 2013

University of California Berkeley

BA, Computer Science

Conferred May 2010

EMPLOYMENT

Associate Professor

Brown University Computer Science Department

Providence, RI

2024 – Present

Eliot Horowitz Assistant Professor

Brown University Computer Science Department

Providence, RI

2021 – 2024

Assistant Professor

Brown University Computer Science Department

Providence, RI

2017 – 2021

Postdoctoral Researcher

Stanford University Computer Science Department

Stanford, CA

2016 – 2017

Research Intern

Adobe Creative Technologies Lab

San Francisco, CA

Summer 2011

Graduate Research Assistant

Stanford University Computer Science Department

Stanford, CA

2010 – 2016

Technical Director Intern

Pixar Animation Studios

Emeryville, CA

Summer 2009

Software Intern

Hewlett-Packard

Roseville, CA

Summer 2008

REFEREED

PUBLICATIONS

All publications listed below follow the author order conventions for visual computing (e.g. graphics, vision, machine learning): the first author is the primary implementer (typically a PhD student), and the last author is typically the direct supervisor of the first author and the principal investigator on the project. Middle authors vary in role, with students and interns typically listed before faculty and senior research scientists.

Annotation scheme for publications started while employed at Brown University (July 2017 onwards):

- **Blue bold text**: PhD student at Brown.
- **Purple bold text**: undergraduate or masters student at Brown.

- **Green bold text**: external PhD student whom Daniel mentored.
- **Orange bold text**: external undergraduate or masters student whom Daniel mentored.

Diorama: Unleashing Zero-shot Single-view 3D Scene Modeling. **Qirui Wu**, **Denys Iliash**, Daniel Ritchie, Manolis Savva, Angel X. Chang. *ICCV 2025*.

Pattern Analogies: Learning to Perform Programmatic Image Edits by Analogy. **Aditya Ganeshan**, Thibaul Groueix, Paul Guerrero, Radomír Měch, Matthew Fisher, Daniel Ritchie. *CVPR 2025*.

GigaHands: A Massive Annotated Dataset of Bimanual Hand Activities. **Rao Fu**, **Dingxi Zhang**, **Alex Jiang**, **Wanjia Fu**, **Austin Funk**, Daniel Ritchie, Srinath Sridhar. *CVPR 2025*. HIGHLIGHT.

Learning to Edit Visual Programs with Self-Supervision. **R. Kenny Jones**, **Renhao Zhang**, **Aditya Ganeshan**, Daniel Ritchie. *NeurIPS 2024*.

ParSEL: Parameterized Shape Editing with Language. **Aditya Ganeshan**, **Ryan Y. Huang**, **Xianghao Xu**, **R. Kenny Jones**, Daniel Ritchie. *SIGGRAPH Asia 2024*.

R3DS: Reality-linked 3D Scenes for Panoramic Scene Understanding. **Qirui Wu**, **Sonia Raychaudhuri**, Daniel Ritchie, Manolis Savva, Angel X. Chang. *ECCV 2024*.

One Noise to Rule Them All: Learning a Unified Model of Spatially-Varying Noise Patterns. **Arman Maesumi**, **Dylan Hu**, **Krishi Saripalli**, Vladimir Kim, Matthew Fisher, Sören Pirk, Daniel Ritchie. *SIGGRAPH 2024*.

Learning to Infer Generative Template Programs for Visual Concepts. **R. Kenny Jones**, Siddhartha Chaudhuri, Daniel Ritchie. *ICML 2024*.

CharacterMixer: Rig-Aware Interpolation of 3D Characters. **Xiao Zhan**, **Rao Fu**, Daniel Ritchie. *Eurographics 2024*.

PossibleImpossibles: Exploratory Procedural Design of Impossible Structures. **Yuanbo Li**, **Tianyi Ma**, **Zaineb Aljumayaat**, Daniel Ritchie. *Eurographics 2024*.

Generalizing Single-View 3D Shape Retrieval to Occlusions and Unseen Objects. **Qirui Wu**, Daniel Ritchie, Manolis Savva, Angel X. Chang. *International Conference on 3D Vision (3DV) 2024*.

Editing Motion Graphics Videos via Motion Vectorization & Transformation. **Sharon Zhang**, **Jiaju Ma**, Daniel Ritchie, Jiajun Wu, Maneesh Agrawala. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia) 2023*.

Explorable Mesh Deformation Subspaces from Unstructured 3D Generative Models. **Arman Maesumi**, Paul Guerrero, Vladimir Kim, Matthew Fisher, Siddhartha Chaudhuri, Noam Aigerman, Daniel Ritchie. *SIGGRAPH Asia 2023*.

Improving Unsupervised Visual Program Inference with Code Rewriting Families. **Aditya Ganeshan**, **R. Kenny Jones**, Daniel Ritchie. *ICCV 2023*. ORAL

PRESENTATION.

ShapeCoder: Discovering Abstractions for Visual Programs from Unstructured Primitives. [R. Kenny Jones](#), Paul Guerrero, Niloy Mitra, Daniel Ritchie. *ACM Transactions on Graphics (Proceedings of SIGGRAPH) 2023*.

Neurosymbolic Models for Computer Graphics Daniel Ritchie, Paul Guerrero, [R. Kenny Jones](#), Niloy Mitra, Adriana Schulz, Karl D. D. Willis, Jiajun Wu *Eurographics 2023 State-of-the-Art Report*.

CLIP-Sculptor: Zero-Shot Generation of High-Fidelity and Diverse Shapes from Natural Language Aditya Sanghi, [Rao Fu](#), Vivian Liu, Karl D.D. Willis, Hooman Shayani, Amir Hosein Khasahmadi, Srinath Sridhar, Daniel Ritchie *CVPR 2023*.

Unsupervised 3D Shape Reconstruction by Part Retrieval and Assembly. [Xianghao Xu](#), Paul Guerrero, Matthew Fisher, Siddhartha Chaudhuri, Daniel Ritchie. *CVPR 2023*.

ShapeCrafter: A Recursive Text-Conditioned 3D Shape Generation Model [Rao Fu](#), [Xiao Zhan](#), [Yiwen Chen](#), Daniel Ritchie, Srinath Sridhar *NeurIPS 2022*.

SHRED: 3D Shape Region Decomposition with Learned Local Operations. [R. Kenny Jones](#), [Aalia Habib](#), Daniel Ritchie. *SIGGRAPH Asia 2022*.

The Shape Part Slot Machine: Contact-based Reasoning for Generating 3D Shapes from Parts. [Kai Wang](#), Srinath Sridhar, Paul Guerrero, Vladimir Kim, Siddhartha Chaudhuri, Minhyuk Sung, Daniel Ritchie. *ECCV 2022*.

Unsupervised Kinematic Motion Detection for Part-segmented 3D Shape Collections. [Xianghao Xu](#), [Yifan Ruan](#), Srinath Sridhar, Daniel Ritchie. *SIGGRAPH 2022*.

The Neurally-Guided Shape Parser: Grammar-based Labeling of 3D Shape Regions with Approximate Inference. [R. Kenny Jones](#), [Aalia Habib](#), Rana Hanocka, Daniel Ritchie. *CVPR 2022*.

PLAD: Learning to Infer Shape Programs with Pseudo-Labels and Approximate Distributions. [R. Kenny Jones](#), [Homer Walke](#), Daniel Ritchie. *CVPR 2022*.

Learning to Infer Kinematic Hierarchies for Novel Object Instances. [Hameed Abdul-Rashid](#), [Miles Freeman](#), [Ben Abbatematteo](#), George Konidakis, Daniel Ritchie. *ICRA 2022*.

Roominoes: Generating Novel 3D Floor Plans From Existing 3D Rooms. [Kai Wang](#), [Xianghao Xu](#), [Leon Lei](#), [Natalie Lindsay](#), [Selena Ling](#), Angel X. Chang, Manolis Savva, Daniel Ritchie. *Symposium on Geometry Processing (SGP) 2021*.

ShapeMOD: Macro Operation Discovery for 3D Shape Programs. [R. Kenny Jones](#), [David Charatan](#), Paul Guerrero, Niloy Mitra, Daniel Ritchie. *ACM Transactions on Graphics (Proceedings of SIGGRAPH) 2021*.

Inferring CAD Modeling Sequences using Zone Graphs. [Xianghao Xu](#), [Wenzhe Peng](#), Chin-Yi Cheng, Karl D. D. Willis, Daniel Ritchie. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2021*.

Motion Annotation Programs: A Scalable Approach to Annotating Kinematic Articulations in Large 3D Shape Collections. [Xianghao Xu](#), [David Charatan](#), [Sonia Raychaudhuri](#), [Hanxiao Jiang](#), [Mae Heitmann](#), Vladimir Kim, Siddhartha Chaudhuri, Manolis Savva, Angel X. Chang, Daniel Ritchie. *International Conference on 3D Vision (3DV) 2020*.

Shape from Tracing: Towards Reconstructing 3D Object Geometry and SVBRDF Material from Images via Differentiable Path Tracing. [Purvi Goel](#), [Loudon Cohen](#), [James Guesman](#), [Vikas Thamizharasan](#), James Tompkin, Daniel Ritchie. *International Conference on 3D Vision (3DV) 2020*.

ShapeAssembly: Learning to Generate Programs for 3D Shape Structure Synthesis. [R. Kenny Jones](#), [Theresa Barton](#), [Xianghao Xu](#), [Kai Wang](#), [Ellen Jiang](#), Paul Guerrero, Niloy Mitra, Daniel Ritchie. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia) 2020*.

GANHopper: Multi-Hop GAN for Unsupervised Image-to-Image Translation. [Wallace Lira](#), [Johannes Merz](#), Daniel Ritchie, Daniel Cohen-Or, Hao Zhang. *European Conference on Computer Vision (ECCV) 2020*.

Learning Generative Models of 3D Structures. Siddhartha Chaudhuri, Daniel Ritchie, Jiajun Wu, Kai Xu, Hao Zhang. *Eurographics 2020 State-of-the-Art Report*.

Learning Style Compatibility Between Objects in a Real-World 3D Asset Database. [Yifan Liu](#), [Ruolan Tang](#), Daniel Ritchie. *Pacific Graphics 2019*.

PlanIT: Planning and Instantiating Indoor Scenes with Relation Graph and Spatial Prior Networks. [Kai Wang](#), [Yu-an Lin](#), [Ben Weissmann](#), Manolis Savva, Angel X. Chang, Daniel Ritchie. *ACM Transactions on Graphics (Proceedings of SIGGRAPH) 2019*.

Fast and Flexible Indoor Scene Synthesis via Deep Convolutional Generative Models. Daniel Ritchie, [Kai Wang](#), [Yu-an Lin](#). *IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2019*.

Learning to Describe Scenes with Programs. [Yunchao Liu](#), Zheng Wu, Daniel Ritchie, William T. Freeman, Joshua B. Tenenbaum, Jiajun Wu. *International Conference on Learning Representations (ICLR) 2019*.

Learning to Infer Graphics Programs from Hand-Drawn Images. [Kevin Ellis](#), Daniel Ritchie, Armando Solar-Lezama, Joshua B. Tenenbaum. *Conference on Neural Information Processing Systems (NeurIPS) 2018*. SPOTLIGHT PRESENTATION.

Improving Shape Deformation in Unsupervised Image-to-Image Translation [Aaron Gokaslan](#), [Vivek Ramanujan](#), Daniel Ritchie, Kwang In Kim, James Tompkin. *European Conference on Computer Vision (ECCV) 2018*.

Deep Convolutional Priors for Indoor Scene Synthesis [Kai Wang](#), Manolis Savva, Angel X. Chang, Daniel Ritchie. *ACM Transactions on Graphics (Proceedings of SIGGRAPH) 2018*.

ScanComplete: Large-Scale Scene Completion and Semantic Segmentation for 3D Scans Angela Dai, Daniel Ritchie, Martin Bokeloh, Scott Reed, Jürgen Sturm, Matthias Nießner. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2018*.

Example-based Authoring of Procedural Modeling Programs with Structural and Continuous Variability Daniel Ritchie, Sarah Jobalia, Anna Thomas *Proceedings of Eurographics 2018*.

An Improved Training Procedure for Neural Autoregressive Data Completion. Maxime Voisin, Daniel Ritchie. *NIPS 2017 Bayesian Deep Learning Workshop*.

Neurally-Guided Procedural Models: Amortized Inference for Procedural Graphics Programs using Neural Networks. Daniel Ritchie, Anna Thomas, Pat Hanrahan, Noah D. Goodman. *Conference on Neural Information Processing Systems (NIPS) 2016*.

C3: Lightweight Incrementalized MCMC for Probabilistic Programs using Continuations and Callsite Caching. Daniel Ritchie, Andreas Stuhlmüller, Noah D. Goodman. *International Conference on Artificial Intelligence and Statistics (AISTATS) 2016*.

Controlling Procedural Modeling Programs with Stochastically-Ordered Sequential Monte Carlo. Daniel Ritchie, Ben Mildenhall, Noah D. Goodman, and Pat Hanrahan. *ACM Transactions on Graphics (Proceedings of SIGGRAPH) 2015*.

Generating Design Suggestions under Tight Constraints with Gradient-based Probabilistic Programming. Daniel Ritchie, Sharon Lin, Noah D. Goodman, and Pat Hanrahan. *Proceedings of Eurographics 2015*. BEST PAPER HONORABLE MENTION.

Quicksand: A Lightweight Embedding of Probabilistic Programming for Procedural Modeling and Design. Daniel Ritchie. *The 3rd NIPS Workshop on Probabilistic Programming, 2014*.

First-class Runtime Generation of High-performance Types using Exotypes. Zach Devito, Daniel Ritchie, Matthew Fisher, Alex Aiken, and Pat Hanrahan. *Programming Language Design and Implementation (PLDI) 2014*.

Probabilistic Color-by-Numbers: Suggesting Pattern Colorizations Using Factor Graphs. Sharon Lin, Daniel Ritchie, Matthew Fisher, and Pat Hanrahan. *ACM Transactions on Graphics (Proceedings of SIGGRAPH) 2013*.

Example-based Synthesis of 3D Object Arrangements. Matthew Fisher, Daniel Ritchie, Manolis Savva, Thomas Funkhouser, and Pat Hanrahan. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia) 2012*.

d.tour: Style-based Exploration of Design Example Galleries. Daniel Ritchie, Ankita Arvind Kejriwal, and Scott R. Klemmer. *ACM Symposium on User Interface Software and Technology (UIST) 2011*.

Dynamic Local Remeshing for Elastoplastic Simulation. Martin Wicke, Daniel Ritchie, Bryan M. Klingner, Sebastian Burke, Jonathan R. Shewchuk, and James F. O'Brien. *ACM Transactions on Graphics (Proceedings of SIGGRAPH) 2010*.

Interactive Simulation of Surgical Needle Insertion and Steering. Nuttapong Chentanez, Ron Alterovitz, Daniel Ritchie, Lita Cho, Kris K. Hauser, Ken Goldberg, Jonathan R. Shewchuk, and James F. O'Brien. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)* 2009.

TECHNICAL REPORTS

CLIPtortionist: Zero-shot Text-driven Deformation for Manufactured 3D Shapes. [Xianghao Xu](#), Srinath Sridhar, Daniel Ritchie. *arXiv:2410.15199*, 2024.

Creating Language-driven Spatial Variations of Icon Images. [Xianghao Xu](#), [Aditya Ganeshan](#), Karl D. D. Willis, Yewen Pu, Daniel Ritchie. *arXiv:2405.19636*, 2024.

Open-Universe Indoor Scene Generation using LLM Program Synthesis and Uncurated Object Databases. [Rio Aguina-Kang](#), [Maxim Gumin](#), [Do Heon Han](#), [Stewart Morris](#), [Seung Jean Yoo](#), [Aditya Ganeshan](#), [R. Kenny Jones](#), [QiuHong Anna Wei](#), Kailiang Fu, Daniel Ritchie. *arXiv:2403.09675*, 2024.

Learning Body-Aware 3D Shape Generative Models. [Bryce Blinn](#), [Alexander Ding](#), [R. Kenny Jones](#), Manolis Savva, Srinath Sridhar, Daniel Ritchie. *arXiv:2112.07022*, 2021.

Deep Amortized Inference for Probabilistic Programs. Daniel Ritchie, Paul Horsfall, Noah D. Goodman. *arXiv:1610.05735*, 2016.

INVITED TALKS

Programmatic Generative Visual Concepts
CVPR, *Second Workshop on Visual Concepts* June 2025

Neurosymbolic Modeling Paradigms for Computer Graphics
INRIA, *GraphDeco Retreat* October 2024

Deep Learning for 3D Geometry
Symposium on Geometry Processing, *Graduate School* June 2024

Neurosymbolic Models for 3D Content Creation
ICCV, *AI for 3D Content Creation Workshop* October 2023

Inferring Programs for 3D Shapes without Supervision
ICCV, *SHARP Workshop - Solving CAD History and pArAmeters Recovery from Point clouds and 3D scans* October 2023

Neurosymbolic Models for 3D Generative AI
ICML, *The Role of Generative AI in Shaping the Next Generation of the Metaverse* July 2023

Learning to Represent Shapes as Programs
Symposium on Geometry Processing, *Graduate School* July 2022

Programs as Representations for Inferring and Generating 3D Structures
Cornell University, *Graphics/Vision Seminar* March 2022

Conversations with Research Pioneers: Daniel Ritchie
Unity Technologies, *Conversations with Research Pioneers* December 2021

AI-assisted 3D Content Creation: Successes, Challenges, & Opportunities
 Roblox, *Research Colloquium* December 2021

Learning to Infer and Generate Programs for 3D Shapes and Scenes
 ICCV, *Holistic Structures for 3D Vision Workshop* October 2021
 ICCV, *Structural and Compositional Learning on 3D Data Workshop* October 2021

Neurosymbolic Generative Models for Structured 3D Content
 3DGV, *3D Geometry and Vision Seminar* February 2021

Learning Neurosymbolic 3D Models
 PROBPLOG, *International Conference on Probabilistic Programming* March 2020

Everything You Need to Know About Deep Fakes
 Full Stack at Brown, *Hack@Home* October 2020

Neurosymbolic 3D Models: Learning to Generate 3D Shape Programs
 GAMES, *Graphics and Mixed Environment Seminar* August 2020

Toward Synthesizing Training Data for 3D Scene Understanding
 CVPR, *3D Scene Understanding Workshop* June 2020

From Neural to Neurosymbolic 3D Modeling
 CVPR, *Neurosymbolic Visual Learning & Program Induction Workshop* June 2020

Neurosymbolic 3D Models
 MIT, *Vision Seminar* March 2020

Learning to Generate 3D Structures
 Brown Department of Biostatistics, *Deep Learning Seminar* February 2020

Deep Learning for Graph(ic)s
 Simon Fraser University, *Visual Computing Group* December 2019

Learning to Generate Visual Structures
 Carney Institute for Brain Science, *Lunch Seminar* October 2019

Indoor Scene Synthesis: Past, Present, and Future
 Shenzhen University, *Visual Computing Summer School* July 2019

Probabilistic Programming
 Brown ICERM, *Computer Vision Semester Program* February 2019

Virtual Indoor Scene Synthesis: Past, Present, and Future
 MIT, *Graphics Lunch* December 2018

Toward Style-Aware Generative Models of Virtual Indoor Scenes
 Wayfair LLC, *Computer Vision / Data Science Team* December 2018

Visual Program Induction
 Brown Applied Math, *Pattern Theory Seminar* November 2018

Probabilistic Programming for Computer Graphics
 MIT, *PROBPLOG 2018* October 2018

Learning Procedural Modeling Programs from Examples
MIT, *New England Symposium on Graphics* April 2018
Microsoft Research Cambridge, *New England Machine Learning Day* May 2018

Learning from Large-Scale Synthetic 3D Scene Data
Brown University Data Science Initiative, *Datathon* March 2018

Inferring Graphics Programs
University of Washington, *ML+PL Workshop* February 2018

Learning and Inferring Graphics Programs
MIT, *Vision Seminar* September 2017

Creative AI for Computer Graphics (It's More Than Just Style Transfer)
Google Brain, *Magenta Group* January 2017

Probabilistic Programming for Procedural Modeling and Design
Adobe Systems, *Creative Technologies Lab* March 2016
Brown University, *Computer Science Department* February 2016
Harvey Mudd College, *Computer Science Department* February 2016
Yale University, *Computer Science Department* February 2016

PANELIST Seminar #3: Visual Reasoning. *COGGRAPH 2024*.

Advances in Software for Approximate Bayesian Inference. *NIPS 2016 Workshop on Advances in Approximate Bayesian Inference*.

TUTORIALS & WORKSHOPS **Mentoring PhD Students in Computer Graphics** July 2024
Daniel Ritchie
SIGGRAPH 2024 Birds of a Feather

3D Vision and Modeling Challenges in eCommerce October 2023
Angel Chang, Jasmine Collins, Huan Fu, Francesca Gil-Ureta, Erhan Gundogdu, Yiming Qian, Daniel Ritchie, Javier Romero, Jian Wang, Fenggen Yu, Xu Zhang
ICCV 2023 Workshop

Learning to Generate 3D Shapes and Scenes October 2022
Kai Wang, Akshay Gadi Patil, Angel X. Chang, Paul Guerrero, Daniel Ritchie, Manolis Savva
ECCV 2022 Workshop

Machine Learning in Computational Design September 2022
Andrew Spielberg, Caitlin Mueller, Lydian Chilton, Rafael Gomez-Bombarelli, Vladimir Kim, Daniel Ritchie
ICML 2022 Workshop

Learning to Generate 3D Shapes and Scenes June 2021
Manyi Li, Zhenpei Yang, Angel X. Chang, Siddhartha Chaudhuri, Daniel Ritchie, Manolis Savva
CVPR 2021 Workshop

Synthetic 3D Scene Datasets: Needs & Opportunities August 2020
Daniel Ritchie, Angel Chang, Manolis Savva

SIGGRAPH 2020 Birds of a Feather

Learning 3D Generative Models June 2020
Daniel Ritchie, Florian Golemo, Angel Chang, Siddhartha Chaudhuri, Aaron Courville,
Qixing Huang, Derek Nowrouzezahrai, Pedro O. Pinheiro, Sai Rajeswar, Manolis Savva,
David Vasquez, Kai Xu, Hao Zhang
CVPR 2020 Workshop

3D Scene Generation June 2019
Angel Chang, Qixing Huang, Daniel Ritchie, Manolis Savva
CVPR 2019 Workshop

Learning Generative Models of 3D Structures May 2019
Siddhartha Chaudhuri, Daniel Ritchie, Kai Xu, Hao Zhang
Eurographics 2019 Tutorial

TEACHING

Instructor Fall 2021 – 2024
Brown CSCI 1230: Introduction to Computer Graphics

Instructor Fall 2018 – 2020
Brown CSCI 1470/2470: Deep Learning

Instructor Spring 2018 – 2024
Brown CSCI 2240: Advanced Computer Graphics

Instructor Fall 2017
Brown CSCI 2951-W: Creative Artificial Intelligence for Computer Graphics

Instructor Summer 2016
DARPA Probabilistic Programming for Advanced Machine Learning Summer School

Course Assistant Spring 2014
Stanford CS 348b: Image Synthesis Techniques

Course Assistant Fall 2011
Stanford CS 148: Introduction to Computer Graphics and Imaging

Graduate Student Instructor Fall 2009, Spring 2010
UC Berkeley CS 184: Foundations of Computer Graphics

Student Facilitator Spring 2009 – Spring 2010
UC Berkeley Undergraduate Graphics Group

Tutor Fall 2008
UC Berkeley Self-Paced Center

RESEARCH MENTORING

Current Students

Aditya Ganeshan Brown CS PhD

Arman Maesumi Brown CS PhD

Maxim Gumin Brown CS PhD

| | |
|---------------------|------------------------------------|
| Yuanbo Li | Brown CS PhD |
| Jason Liu | Brown CS PhD |
| Ben Ahlbrand | Brown CS PhD |
| Xiaoxi Yang | Brown CS Research Assistant |
| Tianxing Ji | Brown CS ScM (expected 2026) |
| Chengye Hao | Brown CS ScM (expected 2026) |
| Pranav Sankar | Brown CS ScM (expected 2027) |
| Do Heon (Bryan) Han | Brown CS Undergrad (expected 2026) |
| Ryan Huang | Brown CS Undergrad (expected 2026) |
| Nirayka Monga | Brown CS Undergrad (expected 2026) |
| Tanish Makadia | Brown CS Undergrad (expected 2026) |
| Yuqiao Guan | Brown CS Undergrad (expected 2026) |
| Evan Mickelson | Brown CS Undergrad (expected 2026) |

Alumni

| | |
|---|-------------------------|
| Russell (Kenny) Jones <i>Next position: Postdoc, Stanford University</i> | Brown CS PhD 2025 |
| Xianghao Xu <i>Next position: Waymo</i> | Brown CS PhD 2024 |
| Kai Wang <i>Next position: Postdoc, Amazon</i> | Brown CS PhD 2023 |
| Zihan Zhu <i>Next position: PhD Student, University of Montreal</i> | Brown CS ScM 2025 |
| Junyu Liu <i>Next position: PhD Student, EPFL</i> | Brown CS ScM 2025 |
| Ruiqi (Ray) Xu <i>Next position: PhD Student, Purdue University</i> | Brown CS ScM 2025 |
| Stewart Morris <i>Next position: CS curriculum development, VA middle school</i> | Brown CS Undergrad 2025 |
| Zack Amiton <i>Next position: Duolingo</i> | Brown CS Undergrad 2025 |

| | |
|---|-------------------------------|
| Jean Yoo <i>Next position: Basis AI</i> | Brown CS Undergrad 2025 |
| Chengfan Li <i>Next position:</i> | Brown CS ScM 2025 |
| Vivian Lu <i>Next position: Bloomberg</i> | Brown CS Undergrad + ScM 2025 |
| Krishi Saripalli <i>Next position: Bezi</i> | Brown CS Undergrad 2024 |
| Dylan Hu <i>Next position: Microsoft</i> | Brown CS Undergrad 2024 |
| Jay Sarva <i>Next position: Databricks</i> | Brown CS Undergrad 2024 |
| Sarah Roberts <i>Next position: Chewonki Foundation</i> | Brown CS Undergrad 2024 |
| Anh Truong <i>Next position: PhD Student, MIT</i> | Brown CS Undergrad 2024 |
| Renhao (Norman) Zhang <i>Next position: PhD Student, UMass Amherst</i> | Brown CS ScM 2024 |
| Alex Ding <i>Next position: Jane Street</i> | Brown CS Undergrad + ScM 2024 |
| Neil Xu <i>Next position: Gecko Robotics</i> | Brown CS Undergrad 2024 |
| Alex Wang <i>Next position: ScM Student, Brown University</i> | Brown CS Undergrad 2024 |
| Cal Nightingale <i>Next position: Gradient Health</i> | Brown CS Undergrad 2024 |
| Coco Kaleel <i>Next position: Analog Devices</i> | Brown CS Undergrad 2024 |
| Chloe Yeh <i>Next position: InterSystems</i> | Brown CS Undergrad 2024 |
| Yifan Ruan <i>Next position: PhD Student, University of Toronto</i> | Brown CS Undergrad 2023 |
| Xiao (Sean) Zhan <i>Next position: PhD Student, MIT</i> | Brown CS Undergrad 2023 |
| Paul Biberstein <i>Next position: PhD Student, UPenn</i> | Brown CS Undergrad 2023 |

| | |
|---|-------------------------------|
| Adrian Chang <i>Next position: Vision Systems, Inc.</i> | Brown CS Undergrad 2023 |
| David Han <i>Next position: Roblox</i> | Brown CS Undergrad 2023 |
| Alana White <i>Next position: Netflix</i> | Brown CS Undergrad 2023 |
| Adam Wang <i>Next position: Five Rings</i> | Brown CS Undergrad 2023 |
| Bryce Blinn <i>Next position: PhD Student, USC</i> | Brown CS Undergrad + ScM 2022 |
| Yuchen Zhou <i>Next position: Amazon</i> | Brown CS ScM 2022 |
| Zhouqi Gong <i>Next position: Amazon</i> | Brown CS ScM 2022 |
| Joshua Pierce <i>Next position:</i> | Brown CS ScM 2022 |
| Caleb Trotz <i>Next position: Goldman Sachs</i> | Brown CS Undergrad 2022 |
| Aalia Habib <i>Next position: Adobe</i> | Brown CS Undergrad 2022 |
| Vikas Thamizharasan <i>Next position: R&D Engineer, Activision</i> | Brown CS ScM 2022 |
| Xiangyu Li <i>Next position:</i> | Brown CS ScM 2021 |
| Selena Ling <i>Next position: PhD Student, University of Toronto</i> | Brown CS ScM 2021 |
| David Charatan <i>Next position: Common Sense Machines</i> | Brown CS Undergrad 2021 |
| Andrew Peterson <i>Next position: Disney Animation</i> | Brown CS Undergrad + ScM 2021 |
| Maggie Wu <i>Next position: Microsoft</i> | Brown CS Undergrad 2021 |
| Homer Walke <i>Next position: PhD Student, UC Berkeley</i> | Brown CS Undergrad 2021 |
| Theresa Barton <i>Next position: The New York Times</i> | Brown CS ScM 2021 |

| | |
|--|-------------------------------|
| Naveen Srinivasan <i>Next position: Amazon Lab126</i> | Brown CS Undergrad 2020 |
| Brian Oppenheim <i>Next position: Google</i> | Brown CS Undergrad 2020 |
| Brad Guesman <i>Next position: NVIDIA</i> | Brown CS Undergrad 2020 |
| Miles Freeman <i>Next position: Winnie</i> | Brown CS Undergrad 2020 |
| Siqi Wang <i>Next position: PhD Student, Boston University</i> | Brown CS ScM 2020 |
| Loudon Cohen <i>Next position: NVIDIA</i> | Brown CS Undergrad + ScM 2020 |
| Purvi Goel <i>Next position: PhD Student, Stanford University</i> | Brown CS Undergrad + ScM 2020 |
| Natalie Lindsay <i>Next position: Apple</i> | Brown CS Undergrad + ScM 2020 |
| Leon Lei <i>Next position: Amazon</i> | Brown CS Undergrad + ScM 2020 |
| Ellen Jiang <i>Next position: Google Brain</i> | Brown CS Undergrad 2020 |
| Ruolan Tang <i>Next position: Two Sigma</i> | Brown CS ScM 2019 |
| Ben Weissmann <i>Next position: Down Dog</i> | Brown CS Undergrad 2019 |
| Mae Heitmann <i>Next position: AirBnB</i> | Brown CS Undergrad 2019 |
| Montana Fowler <i>Next position: PhD Student, UC Santa Cruz</i> | Brown CS Undergrad 2019 |
| Yu-An (Andy) Lin <i>Next position: Microsoft</i> | Brown ECE ScM 2018 |
| Yifan Liu <i>Next position: Google</i> | Brown CS ScM 2018 |
| Shreya Shankar <i>Next position: Machine Learning Engineer, Viaduct</i> | Stanford CS Undergrad 2019 |
| Maxime Voisin <i>Next position: Research Assistant, Stanford University</i> | Stanford MS&E MS 2018 |

Anna Thomas Stanford CS Undergrad 2018
Next position: Masters Student, University of Cambridge (Churchill Scholar)

Sarah Jobalia Stanford CS MS 2018
Next position: Microsoft

Ben Mildenhall Stanford CS Undergrad 2015
Next position: PhD Student, UC Berkeley

Visitors

Nicole Ge Visiting Undergraduate Researcher Summer 2025
Home institution: Harvey Mudd College

Aruna Anderson Visiting Undergraduate Researcher Summer 2025
Home institution: Loyal Marymount University

Henro Kriel Visiting PhD Student Nov - Dec 2024
Home institution: Inria

Clara Fee Visiting Undergraduate Researcher Summer 2024
Home institution: Bryn Mawr College

Caitlin Gong Visiting Undergraduate Researcher Summer 2024
Home institution: Vassar College

Rio Aguina-Kang Visiting Undergraduate Researcher Summer 2023
Home institution: UCSD

Imani Finkley Visiting Undergraduate Researcher Summer 2022
Home institution: Cornell University

Hameed Abdul-Rashid Visiting Undergraduate Researcher Summer 2019
Home institution: University of Southern Mississippi

External Thesis Committees

Wenzhe Peng 2022
MIT Department of Architecture

FUNDING **NSF REU Site #2447190** 06/2025 – 05/2028
Artificial Intelligence for Computational Creativity
Sole PI. \$364,562

Adobe Inc. 2020 – 2025
Unrestricted Gifts
Sole PI. \$164,000

Roblox Corporation 2024 – 2024
Unrestricted Gifts
Sole PI. \$60,000

| | |
|---|-------------------|
| Google exploreCSR | 2024 – 2027 |
| Unrestricted Gift | |
| Co-PI: Malte Schwarzkopf. \$32,000 | |
| NSF CISE-ANR HCC Small #2315354 | 10/2023 - 09/2026 |
| Learning to Translate Freehand Design Drawings into Parametric CAD Programs | |
| Co-PI: Adrien Bousseau (INRIA). \$599,999 | |
| NSF REU Site #2150184 | 03/2022 – 02/2025 |
| Artificial Intelligence for Computational Creativity | |
| Sole PI. \$313,000 | |
| Google exploreCSR | 2021 – 2023 |
| Unrestricted Gift | |
| Co-PIs: James Tompkin, Jeff Huang, Amy Greenwald. \$18,000 | |
| Autodesk Inc. | 2020 – 2024 |
| Unrestricted Gifts | |
| Sole PI. \$170,000 | |
| NSF CCRI Planning #2016532 | 10/2020 – 03/2024 |
| A Community-Standard, Large-Scale Synthetic 3D Scene Dataset for Scene Analysis and Synthesis | |
| Sole PI. \$50,000 | |
| NSF CAREER #1941808 | 04/2020 – 03/2025 |
| Learning Neurosymbolic 3D Models | |
| Sole PI. \$549,999 | |
| NSF CHS Small #1907547 | 10/2019 – 06/2024 |
| Learning to Automatically Design Interior Spaces | |
| Sole PI. \$498,333 | |
| DARPA GAILA HR00111990064 | 07/2019 – 12/2020 |
| Cognitively-Motivated Word Learning in Embodied Virtual Agents | |
| Co-PIs: Ellie Pavlick, Roman Fieman, Stefanie Tellex, Carsten Eickhoff. \$954,509 | |
| Brown University OVPR Research Seed Fund Award | 2019 |
| Building a Large Dataset of Articulated 3D Object Models | |
| Sole PI. \$42,500 | |
| NSF CRII #1753684 | 05/2018 – 04/2021 |
| Learning Procedural Modeling Programs for Computer Graphics from Examples | |
| Sole PI. \$175,000 | |

AWARDS & HONORS

| | |
|--|------|
| Eliot Horowitz Assistant Professorship | 2021 |
| NSF CAREER Award | 2020 |
| Eurographics Best Paper Honorable Mention | 2015 |
| Stanford Graduate Fellowship | 2010 |
| UC Berkeley EECS Departmental Citation | 2010 |
| UC Berkeley Computer Science Highest Achievement Award | 2010 |
| CRA Outstanding Undergraduate Researcher Honorable Mention | 2010 |
| UC Berkeley Edward Frank Kraft Scholarship | 2007 |

PROFESSIONAL SERVICE **Program Chair**
3DV: 2026

Program Committee Member / Area Chair

SIGGRAPH: 2021, 2022
SIGGRAPH Asia: 2018, 2019, 2023, 2024
SIGGRAPH Asia Courses: 2020
SIGGRAPH Asia Papers Sort Committee: 2025
NeurIPS: 2019
ICLR: 2021, 2023
Eurographics: 2020 – 2024
Eurographics State-of-the-Art Reports: 2025

Conflict of Interest Coordinator

SIGGRAPH Asia: 2020

Conference Proceedings Reviewer

SIGGRAPH: 2016 – 2025
SIGGRAPH Asia: 2016 – 2024
CVPR: 2019 – 2025
UIST: 2016
NeurIPS: 2016, 2018, 2019
Eurographics: 2017 – 2019
Graphics Interface: 2019
ICCV: 2019, 2021, 2025
ECCV: 2020
ICML: 2018
ICLR: 2018

Journal Editor

Computer Graphics Forum (Associate Editor): 2021 – 2025
IEEE TVCG (Associate Editor): 2023 – 2024

Journal Reviewer

ACM TOG: 2019, 2022
IEEE TVCG: 2016, 2019, 2021
Computer Graphics Forum: 2017, 2020, 2022
Pattern Recognition: 2019
Computer Aided Design: 2016
Transactions on Games: 2020
IEEE TPAMI: 2022

Grant Reviewer

NSF Proposal Reviewer: 2018, 2020, 2021, 2025

Other Reviews

SIGGRAPH Thesis Fast Forward: 2024

| | | |
|---------------------------|---------------------|--------------------------|
| UNIVERSITY SERVICE | Sophomore Advising | 2022 – 2023 |
| | First-Year Advising | 2021 – 2022, 2025 – 2026 |

| | | |
|---------------------------|---------------------------------------|-------------|
| DEPARTMENT SERVICE | Faculty Search Chair | 2023 – 2024 |
| | Diversity & Inclusion Committee Chair | 2021 – 2023 |

| | |
|--|----------------|
| Diversity & Inclusion Committee Member | 2021 – Present |
| Undergraduate Concentration Advising | 2018 – Present |
| PhD Admissions Committee Member | 2017 – 2024 |

| | |
|----------------|---|
| PATENTS | Methods and Apparatus for Comic Creation (US 20130073952 A1) |
|----------------|---|

| | | |
|---------------------|-----------------------------------|------|
| FILM CREDITS | Day & Night | 2010 |
| | Pixar Animation Studios | |
| | <i>Shading Technical Director</i> | |