

DANIEL RITCHIE

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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.

One Noise to Rule Them All: Learning a Unified Model of Spatially-Varying Noise Patterns. Arman Maesumi, Dylan Hu, Krishni 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 Aljumayyat, 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*.

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 Konidaris, 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

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

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 pParameters Recovery from Point*

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|---|---------------|
| <i>clouds and 3D scans</i> | October 2023 |
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| Neurosymbolic Models for 3D Generative AI ICML, <i>The Role of Generative AI in Shaping the Next Generation of the Metaverse</i> July 2023 | |
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| Learning to Represent Shapes as Programs Symposium on Geometry Processing, <i>Summer School</i> | July 2022 |
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| Programs as Representations for Inferring and Generating 3D Structures Cornell University, <i>Graphics/Vision Seminar</i> | March 2022 |
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| Conversations with Research Pioneers: Daniel Ritchie Unity Technologies, <i>Conversations with Research Pioneers</i> | December 2021 |
| | |
| AI-assisted 3D Content Creation: Successes, Challenges, & Opportunities Roblox, <i>Research Colloquium</i> | December 2021 |
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| Learning to Infer and Generate Programs for 3D Shapes and Scenes ICCV, <i>Holistic Structures for 3D Vision Workshop</i> | October 2021 |
| ICCV, <i>Structural and Compositional Learning on 3D Data Workshop</i> | October 2021 |
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| Neurosymbolic Generative Models for Structured 3D Content 3DGV, <i>3D Geometry and Vision Seminar</i> | February 2021 |
| | |
| Learning Neurosymbolic 3D Models PROBPROG, <i>International Conference on Probabilistic Programming</i> | March 2020 |
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| Everything You Need to Know About Deep Fakes Full Stack at Brown, <i>Hack@Home</i> | October 2020 |
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| Neurosymbolic 3D Models: Learning to Generate 3D Shape Programs GAMES, <i>Graphics and Mixed Environment Seminar</i> | August 2020 |
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| Toward Synthesizing Training Data for 3D Scene Understanding CVPR, <i>3D Scene Understanding Workshop</i> | June 2020 |
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| From Neural to Neurosymbolic 3D Modeling CVPR, <i>Neurosymbolic Visual Learning & Program Induction Workshop</i> | June 2020 |
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| Neurosymbolic 3D Models MIT, <i>Vision Seminar</i> | March 2020 |
| | |
| Learning to Generate 3D Structures Brown Department of Biostatistics, <i>Deep Learning Seminar</i> | February 2020 |
| | |
| Deep Learning for Graph(ic)s Simon Fraser University, <i>Visual Computing Group</i> | December 2019 |
| | |
| Learning to Generate Visual Structures Carney Institute for Brain Science, <i>Lunch Seminar</i> | October 2019 |
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| Indoor Scene Synthesis: Past, Present, and Future Shenzhen University, <i>Visual Computing Summer School</i> | July 2019 |

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| Probabilistic Programming Brown ICERM, <i>Computer Vision Semester Program</i> | February 2019 |
| Virtual Indoor Scene Synthesis: Past, Present, and Future MIT, <i>Graphics Lunch</i> | December 2018 |
| Toward Style-Aware Generative Models of Virtual Indoor Scenes Wayfair LLC, <i>Computer Vision / Data Science Team</i> | December 2018 |
| Visual Program Induction Brown Applied Math, <i>Pattern Theory Seminar</i> | November 2018 |
| Probabilistic Programming for Computer Graphics MIT, <i>PROBPROG 2018</i> | October 2018 |
| Learning Procedural Modeling Programs from Examples MIT, <i>New England Symposium on Graphics</i> | April 2018 |
| Microsoft Research Cambridge, <i>New England Machine Learning Day</i> | May 2018 |
| Learning from Large-Scale Synthetic 3D Scene Data Brown University Data Science Initiative, <i>Datathon</i> | March 2018 |
| Inferring Graphics Programs University of Washington, <i>ML+PL Workshop</i> | February 2018 |
| Learning and Inferring Graphics Programs MIT, <i>Vision Seminar</i> | September 2017 |
| Creative AI for Computer Graphics (It's More Than Just Style Transfer) Google Brain, <i>Magenta Group</i> | January 2017 |
| Probabilistic Programming for Procedural Modeling and Design Adobe Systems, <i>Creative Technologies Lab</i> | March 2016 |
| Brown University, <i>Computer Science Department</i> | February 2016 |
| Harvey Mudd College, <i>Computer Science Department</i> | February 2016 |
| Yale University, <i>Computer Science Department</i> | February 2016 |

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

TUTORIALS & WORKSHOPS **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 – 2023

Brown CSCI 1230: Introduction to Computer Graphics

Instructor

Fall 2018 – 2020

Brown CSCI 1470/2470: Deep Learning

Instructor

Spring 2018 – 2023

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

| | |
|-----------------------|------------------------------------|
| Russell (Kenny) Jones | Brown CS PhD |
| Xianghao Xu | Brown CS PhD |
| Aditya Ganeshan | Brown CS PhD |
| Arman Maesumi | Brown CS PhD |
| Maxim Gumin | Brown CS PhD |
| Yuanbo Li | Brown CS PhD |
| Zihan Zhu | Brown CS ScM (expected 2025) |
| Junyu Liu | Brown CS ScM (expected 2025) |
| Ruiqi (Ray) Xu | Brown CS ScM (expected 2025) |
| Krishni Saripalli | Brown CS Undergrad (expected 2024) |
| Jay Sarva | Brown CS Undergrad (expected 2024) |
| Sarah Roberts | Brown CS Undergrad (expected 2024) |
| Do Heon (Bryan) Han | Brown CS Undergrad (expected 2025) |
| Stewart Morris | Brown CS Undergrad (expected 2025) |
| Zack Amiton | Brown CS Undergrad (expected 2025) |
| Jean Yoo | Brown CS Undergrad (expected 2025) |
| Ryan Huang | Brown CS Undergrad (expected 2026) |
| Nirayka Monga | Brown CS Undergrad (expected 2026) |
| Tanish Makadia | Brown CS Undergrad (expected 2026) |

Alumni

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|---|-------------------------------|
| Kai Wang <i>Next position: Postdoc, Amazon</i> | Brown CS PhD 2023 |
| 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 |

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| 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 |

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| 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 |

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| 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 <i>Next position: Masters Student, University of Cambridge (Churchill Scholar)</i> | Stanford CS Undergrad 2018 |
| Sarah Jobalia <i>Next position: Microsoft</i> | Stanford CS MS 2018 |
| Ben Mildenhall <i>Next position: PhD Student, UC Berkeley</i> | Stanford CS Undergrad 2015 |

Visitors

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| Clara Fee <i>Home institution: Bryn Mawr College</i> | Visiting Undergraduate Researcher Summer 2024 |
| Caitlin Gong <i>Home institution: Vassar College</i> | Visiting Undergraduate Researcher Summer 2024 |
| Rio Aguina-Kang <i>Home institution: UCSD</i> | Visiting Undergraduate Researcher Summer 2023 |
| Imani Finkley <i>Home institution: Cornell University</i> | Visiting Undergraduate Researcher Summer 2022 |
| Hameed Abdul-Rashid <i>Home institution: University of Southern Mississippi</i> | Visiting Undergraduate Researcher Summer 2019 |

External Thesis Committees

| | | |
|----------------|---|-------------------|
| | Wenzhe Peng <i>MIT Department of Architecture</i> | 2022 |
| FUNDING | Roblox Corporation Unrestricted Gifts Sole PI. \$60,000 | 2024 – 2024 |
| | Adobe Inc. Unrestricted Gifts Sole PI. \$154,000 | 2020 – 2024 |
| | Google exploreCSR Unrestricted Gift Co-PI: Malte Schwarzkopf. \$32,000 | 2024 – 2027 |
| | NSF CISE-ANR HCC Small #2315354 Learning to Translate Freehand Design Drawings into Parametric CAD Programs Co-PI: Adrien Bousseau (INRIA). \$599,999 | 10/2023 - 09/2026 |
| | NSF REU Site #2150184 Artificial Intelligence for Computational Creativity Sole PI. \$313,000 | 03/2022 – 02/2025 |
| | Google exploreCSR Unrestricted Gift Co-PIs: James Tompkin, Jeff Huang, Amy Greenwald. \$18,000 | 2021 – 2023 |
| | Autodesk Inc. Unrestricted Gifts Sole PI. \$120,000 | 2020 – 2023 |
| | NSF CCRI Planning #2016532 A Community-Standard, Large-Scale Synthetic 3D Scene Dataset for Scene Analysis and Synthesis Sole PI. \$50,000 | 10/2020 – 03/2024 |
| | NSF CAREER #1941808 Learning Neurosymbolic 3D Models Sole PI. \$549,999 | 04/2020 – 03/2025 |
| | NSF CHS Small #1907547 Learning to Automatically Design Interior Spaces Sole PI. \$498,333 | 10/2019 – 06/2024 |
| | DARPA GAILA HR00111990064 Cognitively-Motivated Word Learning in Embodied Virtual Agents Co-PIs: Ellie Pavlick, Roman Fieman, Stefanie Tellex, Carsten Eickhoff. \$954,509 | 07/2019 – 12/2020 |
| | Brown University OVR Research Seed Fund Award Building a Large Dataset of Articulated 3D Object Models Sole PI. \$42,500 | 2019 |
| | NSF CRII #1753684 Learning Procedural Modeling Programs for Computer Graphics from Examples | 05/2018 – 04/2021 |

Sole PI. \$175,000

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| 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 Committee Member / Area Chair**

SIGGRAPH: 2021, 2022
SIGGRAPH Asia: 2018, 2019, 2023, 2024
SIGGRAPH Asia Courses: 2020
NeurIPS: 2019
ICLR: 2021, 2023
Eurographics: 2020 – 2024

Conflict of Interest Coordinator

SIGGRAPH Asia: 2020

Conference Proceedings Reviewer

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

Journal Editor

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

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

Other Reviews

SIGGRAPH Thesis Fast Forward: 2024

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|-------------------------------|---|-------------|
| DEPARTMENT SERVICE | PhD Admissions Committee Member | 2017 – 2024 |
| | Diversity & Inclusion Committee Chair | 2021 – 2023 |
| | Diversity & Inclusion Committee Member | 2021 – |
| | Faculty Search Chair | 2023 – 2024 |
| PATENTS | Methods and Apparatus for Comic Creation (US 20130073952 A1) | |
| FILM CREDITS | Day & Night | 2010 |
| | Pixar Animation Studios | |
| | <i>Shading Technical Director</i> | |