Aditya Ganeshan

Researcher, Apple

adityaganeshan@gmail.com | **bardofcodes.github.io** | **Google Scholar** | **GitHub**

Research interests: Computer Vision, Graphics, Optimization, Computational Design, and Machine Learning.

Education

Brown University August 2021 - present
Ph.D. in Computer Science
Thesis: *Annotation-free Acquisition of Novel Symbolic Geometry.*
Advisor: Daniel Ritchie.

Indian Institute of Technology, Roorkee August 2012 - July 2017
Integrated M.Sc. in Applied Mathematics
Thesis: *Per-pixel feedback for improving semantic segmentation.*

Experience

Researcher July 2026 - present
Apple
Mentor: David Jacobs.

Research Scientist Intern June 2025 - September 2025
Adobe, San Francisco
Mentors: Thibault Groueix and Yifan Wang.

Visiting Associate Researcher December 2024 - February 2025
Igarashi Lab, University of Tokyo
Mentors: Maria Larsson and Takeo Igarashi.

Research Scientist Intern June 2024 - September 2024
Adobe, San Francisco
Mentor/Manager: Matthew Fisher.

Researcher December 2018 - May 2021
Preferred Networks Inc., Tokyo
Research in computer vision, adversarial robustness, source separation, and robotics.

Research Assistant June 2017 - November 2018
Video Analytics Lab, Indian Institute of Science
Mentor/Manager: R. V. Babu.

Awards

Outstanding Reviewer (top 5%), CVPR 2025 — 2025
Outstanding Reviewer (top 8%), NeurIPS 2022; *Highlighted Reviewer (top 8%)*, ICLR 2022 — 2022
Winner, Deep Perception Hackathon, Machine Learning Tokyo — 2019
Winner, AutoNUE: Scene Understanding Challenge, ECCV — 2018
INSPIRE Scholarship, Indian Institute of Technology, Roorkee — 2012 - 2017

Selected Papers

Residual Primitive Fitting of 3D Shapes with SuperFrusta
CVPR 2026, **Oral & Award Candidate (1.8%)**, **A. Ganeshan**, Matheus Gadelha, Thibault Groueix, Zhiqin Chen, Siddhartha Chaudhuri, Vladimir G. Kim, Wang Yifan and Daniel Ritchie.

MiGumi: Making Tightly Coupled Integral Joints Millable
SIGGRAPH Asia / TOG 2025, **A. Ganeshan**, Kurt Fleischer, Wenzel Jakob, Ariel Shamir, Daniel Ritchie, Takeo Igarashi and Maria Larsson.

Procedural Scene Programs for Open-Universe Scene Generation
SIGGRAPH Asia / TOG 2025, Maxim Gumin, Do Heon Han, Seung Jean Yoo, **A. Ganeshan**, R. Kenny Jones, Kailiang Fu, Rio Aguina-Kang, Stewart Morris and Daniel Ritchie.

Pattern Analogies: Learning to Perform Programmatic Image Edits by Analogy
CVPR 2025, **A. Ganeshan**, Thibault Groueix, Paul Guerrero, Radomir Mech, Matthew Fisher and Daniel Ritchie.

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

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

Improving Unsupervised Visual Program Inference with Code Rewriting Families
ICCV 2023, **Oral (9.03%)**, **A. Ganeshan**, R. Kenny Jones and Daniel Ritchie.

Warp-Refine Propagation: Semi-Supervised Auto-Labeling via Cycle-Consistency
ICCV 2021, **A. Ganeshan**, Alexis Vallet, Yasunori Kudo, Shin-ichi Maeda, Tommi Kerola, Rares Ambrus, Dennis Park and Adrien Gaidon.

Generalizable Data-Free Objective for Crafting Universal Adversarial Perturbations
TPAMI 2018, K. M. Reddy*, **A. Ganeshan*** and R. V. Babu.

Additional publications: **Google Scholar**. * Equal contribution.

Preprints

Creative Robot Tool Use by Counterfactual Reasoning
arXiv 2026, M. Tuluhan Akbulut, Varun Satheesh, Ahmed Jaafar, Alper Ahmetoglu, Shane Parr, **A. Ganeshan**, Shivam Vats and George Konidaris.

Creating Language-driven Spatial Variations of Icon Images
arXiv 2024, Xianghao Xu, **A. Ganeshan**, Karl D. D. Willis, Yewen Pu and Daniel Ritchie.

Software

SuperFit 2026
Residual primitive fitting for 3D shapes with SuperFrusta and related primitives.

SplitWeave 2026
A domain-specific language for programmatic 2D pattern images.

MiGumi 2025
Tools for tightly coupled integral joints manufacturable via CNC milling.

ASMBLR 2025
A node-based visual programming system for symbolic geometry languages.

SySL 2025
A symbolic scene language for sphere-traceable GLSL scenes.

PolyArc CSG 2025
Exact SDFs and morphological operations for 2D CSG expressions.

GeoLIPI 2024
A Python DSL for 2D and 3D implicit geometric modeling.

CoReF 2023
Code rewriting families for visual program inference.

Teaching

CSCI 2240: Advanced Computer Graphics, Brown University Spring 2023
Graduate Teaching Assistant with Professor Daniel Ritchie.

DS-265: Deep Learning for Computer Vision, Indian Institute of Science Spring 2018
Teaching Assistant with Professor R. V. Babu.

Service

Open Review Chair, 3DV 2026, Vancouver 2025 - 2026

Student Volunteer, SIGGRAPH 2023, Los Angeles August 2023

Student Mentor, ExploreCSR, Brown University February 2023 - May 2023

Study Group Leader, Brown CS REU Site on AI for Computational Creativity June 2022 - July 2022

Reviewer: CVPR, ICCV, ECCV, NeurIPS, ICLR, ICML, IROS, SIGGRAPH, SIGGRAPH Asia, Eurographics, CG Forum and AAAI (2019-2026)