

GUANDAO YANG

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EDUCATION

- Stanford University August 2023 - Present
Postdoctoral Scholar in Computer Science and Electrical Engineering
Advisors: Leonidas J. Guibas, Gordon Wetzstein
- Cornell University July 2018 - July 2023
Ph.D. in Computer Science
Advisors: Serge Belongie, Bharath Hariharan
Concentrations: Artificial Intelligence, Computer Engineering, Scientific Computing
- Cornell University August 2014 - May 2018
B.A. in Computer Science and Mathematics

PUBLICATIONS

* denotes equal contribution.

- [Nak+25] K. Nakayama*, J. Ackermann*, T. L. Kesdogan*, Y. Zheng, M. Korosteleva, O. Sorkine-Hornung, L. J. Guibas, G. **Yang**, and G. Wetzstein. “AIpparel: A Large Multimodal Generative Model for Digital Garments”. In: *CVPR* (2025).
- [Gu+25] Y. Gu, I. Huang, J. Je, G. **Yang**, and L. Guibas. “BlenderGym: Benchmarking Foundational Model Systems for Graphics Editing”. In: *CVPR* (2025).
- [Che+25] A. Chetan, G. **Yang**, Z. Wang, S. Marschner, and B. Hariharan. “Accurate Differential Operators for Hybrid Neural Fields”. In: *CVPR* (2025).
- [Zha+25] Y. Zhang, G. **Yang**, L. Guibas, and Y. Yang. “InfoGS: Efficient Structure-Aware 3D Gaussians via Lightweight Information Shaping”. In: *ICLR* (2025).
- [Je+24] J. Je*, J. Liu*, G. **Yang***, B. Deng*, S. Cai, G. Wetzstein, O. Litany, and L. Guibas. “Robust Symmetry Detection via Riemannian Langevin Dynamics”. In: *SIGGRAPH Asia* (2024).
- [Hua+24a] J. Huang, G. **Yang**, Z. Wang, and J. J. Park. “DiffusionPDE: Generative PDE-Solving Under Partial Observation”. In: *NeurIPS* (2024).
- [Wu+24a] T. Wu, Y. Xu, R. Po, M. Zhang, G. **Yang**, J. Wang, Z. Liu, D. Lin, and G. Wetzstein. “FiVA: Fine-grained Visual Attribute Dataset for Text-to-Image Diffusion Models”. In: *NeurIPS Datasets and Benchmarks Track* (2024).
- [HYG24] I. Huang, G. **Yang**, and L. Guibas. “BlenderAlchemy: Editing 3D Graphics with Vision-Language Models”. In: *ECCV* (2024).
- [Zhe+24] Y. Zheng*, Q. Zhao*, G. **Yang**, W. Yifan, D. Xiang, F. Dubost, D. Lagun, T. Beeler, F. Tombari, L. Guibas, and G. Wetzstein. “PhysAvatar: Learning the Physics of Dressed 3D Avatars from Visual Observations”. In: *ECCV* (2024).
- [Tun+24] J. Tung, G. Chou, R. Cai, G. **Yang**, K. Zhang, G. Wetzstein, B. Hariharan, and N. Snavely. “MegaScenes: Scene-Level View Synthesis at Scale”. In: *ECCV* (2024).
- [Li+24] Z. Li*, G. **Yang***, Q. Zhao, X. Deng, L. J. Guibas, B. Hariharan, and G. Wetzstein. “Neural Control Variates via Automatic Integration”. In: *SIGGRAPH* (2024).
- [Wu+24b] T. Wu*, G. **Yang***, Z. Li*, K. Zhang, Z. Liu, L. Guibas, D. Lin, and G. Wetzstein. “GPT-4V (ision) is a Human-Aligned Evaluator for Text-to-3D Generation”. In: *CVPR* (2024).
- [Po+24] R. Po, G. **Yang**, K. Aberman, and G. Wetzstein. “Orthogonal adaptation for modular customization of diffusion models”. In: *CVPR (Spotlight)* (2024).

- [Li+23] Z. Li*, G. **Yang***, X. Deng, C. De Sa, B. Hariharan, and S. Marschner. “Neural Caches for Monte Carlo Partial Differential Equation Solvers”. In: *SIGGRAPH Asia* (2023).
- [Uy+23] M. A. Uy, K. Nakayama, G. **Yang**, R. K. Thomas, L. Guibas, and K. Li. “Nerf revisited: Fixing quadrature instability in volume rendering”. In: *NeurIPS* (2023).
- [Yan+22] G. **Yang***, S. Benaim*, V. Jampani, K. Genova, J. Barron, T. Funkhouser, B. Hariharan, and S. Belongie. “Polynomial neural fields for subband decomposition and manipulation”. In: *NeurIPS* (2022).
- [Luo+21] K. Luo*, G. **Yang***, W. Xian, H. Haraldsson, B. Hariharan, and S. Belongie. “Stay positive: Non-negative image synthesis for augmented reality”. In: *CVPR (Oral)* (2021).
- [Yan+21] G. **Yang**, S. Belongie, B. Hariharan, and V. Koltun. “Geometry processing with neural fields”. In: *NeurIPS* (2021).
- [Cai+20] R. Cai*, G. **Yang***, H. Averbuch-Elor, Z. Hao, S. Belongie, N. Snavely, and B. Hariharan. “Learning gradient fields for shape generation”. In: *ECCV (Spotlight)* (2020).
- [Yan+19a] G. **Yang***, X. Huang*, Z. Hao, M.-Y. Liu, S. Belongie, and B. Hariharan. “Pointflow: 3d point cloud generation with continuous normalizing flows”. In: *ICCV (Oral)* (2019).
- [Yan+19b] G. **Yang**, T. Zhang, P. Kirichenko, J. Bai, A. G. Wilson, and C. De Sa. “SWALP: Stochastic weight averaging in low precision training”. In: *ICML* (2019).
- [Cui+18] Y. Cui, G. **Yang**, A. Veit, X. Huang, and S. Belongie. “Learning to evaluate image captioning”. In: *CVPR* (2018).
- [Yan+18] G. **Yang**, Y. Cui, S. Belongie, and B. Hariharan. “Learning single-view 3d reconstruction with limited pose supervision”. In: *ECCV* (2018).

Workshop Papers

- [Hua+24b] J. Huang, G. **Yang**, Z. Wang, and J. J. Park. “DiffusionPDE: Generative PDE-Solving Under Partial Observation”. In: *ICML AI for Science Workshop (Oral)* (2024).
- [Yan+23] G. **Yang**, A. Kundu, L. J. Guibas, J. T. Barron, and B. Poole. “Learning a diffusion prior for nerfs”. In: *ICLR Workshops* (2023).
- [She+22] F. Y. Shen, K. Luo, G. **Yang**, H. Haraldsson, and S. Belongie. “Residual Aligned: Gradient Optimization for Non-Negative Image Synthesis”. In: *CVPR Workshops* (2022).
- [Zha+19] T. Zhang, Z. Lin, G. **Yang**, and C. De Sa. “Qpytorch: A low-precision arithmetic simulation framework”. In: *NeurIPS Workshops (EMC2-NIPS)* (2019).
- [YMB19] G. **Yang**, T. Malisiewicz, and S. Belongie. “Learning Data-Adaptive Interest Points through Epipolar Adaptation.” In: *CVPR Workshops* (2019).
- [Pou+18] O. Poursaeed*, G. **Yang***, A. Prakash*, Q. Fang, H. Jiang, B. Hariharan, and S. Belongie. “Deep fundamental matrix estimation without correspondences”. In: *ECCV Workshops* (2018).

Preprints

- [Den+24] Y. Deng*, W. Xian*, G. **Yang**, L. Guibas, G. Wetzstein, S. Marschner, and P. Debevec. “Self-Calibrating Gaussian Splatting for Large Field of View Reconstruction”. In: *arXiv preprint* (2024).
- [Wu+17] F. Wu, N. Lao, J. Blitzer, G. **Yang**, and K. Weinberger. “Fast reading comprehension with convnets”. In: *arXiv preprint* (2017).

Under Review

- [Pan+24] Z. Pan, B. Pan, G. **Yang**, A. W. Harley, and L. Guibas. “Animal Pose Labeling Using General-Purpose Point Trackers”. In: *submission* (2024).

INDUSTRY EXPERIENCE

Student Researcher , Google Host: Abhijit Kundu, Ben Poole, Leonidas J. Guibas Research on building diffusion models to generate NeRFs.	June 2022 - Dec 2022
Research Intern , Google Host: Varun Jampani, Jon Barron, Thomas Funkhouser Research on neural fields network architecture.	June 2021 - April 2022
Research Intern , Intel Host: Vladlen Koltun Research on discretization-free geometry processing.	January 2021 - May 2021
Research Intern , NVIDIA Host: Ming-Yu Liu, Xun Huang, Jan Kautz Research on 3D generative model.	May 2019 - November 2021
Research Assistant , Cornell SonicMEMS Lab Extract nail-to-nail fingerprints from a video using inverse slit-cam scanning. Entered the IARPA N2N challenge final round as the only undergraduate team (only 8 teams are qualified globally).	September 2017 - December 2017
Software Engineer Intern , Google Designed a generalizable algorithm to extract performers from public events data.	May 2017 - August 2017

TEACHING EXPERIENCE

Teaching Assitant, Guest Lecturer Geometric and Topological Data Analysis (CS 233, Stanford)	Winter 2024 Instructor: Leonidas Guibas
Head Teaching Assistant Applied Machine Learning (CS 5785, Cornell)	Fall 2022 Instructor: Volodymyr Kuleshov
Teaching Assistant Machine Learning Hardware and Systems (ECE 5545, Cornell)	Spring 2022 Instructor: Mohamed Abdelfattah
Head Teaching Assistant, Guest Lecturer Applied Machine Learning (CS 5785, Cornell)	Fall 2019 Instructor: Serge Belongie
Graduate Teaching Assistant Computer Vision (CS 6670, Cornell)	Fall 2018 Instructor: Bharath Hariharan
Head Teaching Assistant Machine Learning for Intelligent Systems (CS 4780, Cornell)	Spring 2018 Instructor: Kilian Weinberger
Teaching Assistant Machine Learning for Intelligent Systems (CS 4780, Cornell)	Fall 2017 Instructor: Kilian Weinberger
Teaching Assistant, Lab instructor Data Structures and Functional Programming (CS 3110, Cornell)	Fall 2015 Instructor: Robert Constable
Teaching Assistant, Lab instructor Data Structures and Functional Programming (CS 3110, Cornell)	Fall 2016 Instructor: Michael Clarkson
Teaching Assistant, Lab instructor Intermediate iPhone Development (CS 2049, Cornell)	Spring 2016 Instructor: Daniel Hauagge
Teaching Assistant, Lab instructor Introduction to iPhone and Apple Watch Development (CS 2048, Cornell)	Fall 2015 Instructor: Tim Novikoff

INVITED TALKS AND LECTURES

Shapes as Fields: Toward Geometry Processing without Discretization [Slides] Invited lecture in University of Pennsylvania, <i>CIS 7000: Introduction to Neural Scene Representation and Neural Rendering</i>	October 2024
A Gentle Introduction to Visual AI [Slides] Invited lecture in Stanford <i>COMM 278A: Artificial Intelligence (AI) and Journalism</i>	October 2024
Survey of Large Language Models and Large Vision Models [Slides] Invited lecture in Stanford <i>CS 468: Topics in Geometric Computing - 3D and 4D Foundation Models</i>	September 2024
Evaluating 3D Shapes for Digital and Physical Applications [Slides] Invited talk at UIUC Vision Seminar	March 2024
Detecting and Exploiting Symmetry and Regularity in 3D Geometry Guest lecture in Stanford <i>CS 233: Geometric and Topological Data Analysis</i>	March 2024
Neural Monte Carlo PDE Solvers [Slides] Invited spotlight talk at Michigan AI Symposium Rising Star 2023	October 2023
Deep Learning for Geometric Data Processing [Link] Invited talk at the CS Student Colloquium at Cornell	December 2022
Geometry Processing with Discretization-Free Representation and Prior [Link] Invited talk at the Pioneer Center for AI and the University of Copenhagen.	May 2022
Geometry Processing with Neural Fields [Video] Invited talk at the Learning on Graphs and Geometry Reading Group	March 2022
Learning Single-view 3D Reconstruction with Limited Pose Supervision Invited talk In the 2019 Scene Understanding and Modeling (SUMO) Workshop (CVPRW).	June 2019

COMMUNITY SERVICE

- ECCV 2026 Publicity and Social Media Co-chair.
- SIGGRAPH 2025 Technical Papers Committee.
- Co-organizer for CV4ARVR Workshops 2019-2022.
- Computer Vision: Reviewer for CVPR, ICCV, ECCV.
- Machine Learning: Reviewer for NeurIPS, ICLR, ICML, IJCV.
- Computer Graphics: Reviewer for SIGGRAPH, SIGGRAPH Asia, TOG Journal, EuropeGraphics.

HONORS

University of Michigan EECS Rising Star	2023
NVIDIA Graduate Fellowship Finalist	2021
Cornell University Arts and Sciences Magna Cum Laude	2018
Cornell University Arts and Sciences Dean's List	2014-2017