Guandao Yang

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EDUCATION

Stanford University Aug, 2023 - Jul, 2025
Postdoc
Computer Science, Electrical Engineering
Advisor: Leo Guibas, Gordon Wetzstein

Cornell University Sep 2018 - Jul, 2023
Ph.D., Computer Science
Graduation Date: July 31, 2023
Advisor: Serge Belongie, Bharath Hariharan

Cornell University Sep 2014 - May, 2018
Bachelor of Arts. Double major in Computer Science and Mathematics.

PUBLICATION

Li, Z.*, **Yang, G.***, Deng, X., Guibas, L., Hariharan, B., Wetzstein, G. (2024). Neural Control Variates via Automatic Integration. In SIGGRAPH 2024 Conference Papers (SIG Conference Papers). (* Equal contributions)

Po, R., **Yang, G**, Wetzstein, G. (2023). Orthogonal adaptation for modular customization of diffusion models. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR) **(Spotlight)**.

Wu, T.*, **Yang, G***, Li, Z.*, Zhang, K., Liu, Z., Guibas, L., Lin, D., Wetzstein, G. (2023). GPT-4V (ision) is a Human-Aligned Evaluator for Text-to-3D Generation. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR). (* Equal contributions)

Li, Z.*, **Yang, G.***, Deng, X., De Sa, C., Hariharan, B., Marschner, S. (2023). Neural Caches for Monte Carlo Partial Differential Equation Solver. In SIGGRAPH Asia 2023 Conference Papers (SA Conference Papers). (* Equal contributions)

Uy, M., Nakayama, K., **Yang, G.**, Guibas, L., Li, K. (2023). NeRF Revisited: Fixing Quadrature Instability in Volume Rendering. In *the 37th Conference on Neural Information Processing Systems (NeurIPS).*

Yang, G.*, Benaim, S.*, Jampani, V., Genova, K., Barron, J., Funkhouser, T., Hariharan, B., Belongie, S. (2022). Polynomial Neural Fields for Subband Decomposition and Manipulation. In *the 36th Conference on Neural Information Processing Systems (NeurIPS).* (* Equal contributions)

Yang, G., Belongie, S., Hariharan, B., Koltun, V.. (2021). Geometry Processing with Neural Fields. In *the 35th Conference on Neural Information Processing Systems (NeurIPS).*

Luo, K.*, **Yang, G.***, Xian, W., Haraldsson, H., & Hariharan, B. & Belongie, S.. (2020). Stay Positive: Non-Negative Image Synthesis for Augmented Reality. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR) **(Oral)**. (* Equal contributions)

Cai, R.*, **Yang, G.***, Averbuch-Elor, H., Hao, Z., Belongie, S., Snavely, N., & Hariharan, B. (2020). Learning Gradient Fields for Shape Generation. In *Proceedings of the European Conference on Computer Vision* (ECCV) **(Spotlight)**. (* Equal contributions)

Yang, G.*, Huang, X.*, Hao, Z., Liu, M. Y., Belongie, S., & Hariharan, B. (2019). PointFlow: 3D Point Cloud Generation with Continuous Normalizing Flows. In *International Conference on Computer Vision* (ICCV) **(Oral)**. (* Equal contributions)

Yang, G., Zhang, T., Kirichenko, P., Bai, J., Wilson, A. G., & De Sa, C. (2019). SWALP: Stochastic Weight Averaging in Low-Precision Training. In *the Thirty-sixth International Conference on Machine Learning* (ICML).

Yang, G., Cui, Y., Belongie, S., & Hariharan, B. (2018). Learning Single-view 3D Reconstruction with Limited Pose Supervision. In *Proceedings of the European Conference on Computer Vision* (ECCV) (pp. 86-101).

Cui, Y., **Yang, G.**, Veit, A., Huang, X., & Belongie, S. (2018). Learning to Evaluate Image Captioning. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition* (CVPR) (pp. 5804-5812).

EXPERIENCE

Student Researcher, Google — June 2022 - Dec 2022
Mentor: Abhijit Kundu, Leo Guibas

Research Intern, Google — June 2021 - Apr 2022
Mentor: Varun Jampani, Thomas Funkhouser

Research Intern, Intel — Jan 2021 - May 2021
Mentor: Vladlen Koltun

Research Intern, NVIDIA — May 2019 - Nov 2021
Mentor: Ming-Yu Liu, Xun Huang, Jan Kautz

Software Engineer Intern, Google — May 2017 - Aug 2017
Designed a generalizable algorithm to extract performers from public events data.

Research Assistant, Cornell SonicMEMS Lab — Sep 2017 - Dec 2017
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).

Cofounder, Tech Lead, Hyphen Connect — Apr 2015 - May 2016
Led a team of 5 to develop an iOS application for professional social networking [App Store].

Full-stack Web Developer, Cornell Linguistics Dept. — Sep 2014 - May 2016
Solo projects include SpeechTerrors and an experiment website [link].

Software Engineer Intern, dxTechnology, Guangzhou. — Jul 2014 - Aug 2014

WORKSHOP

Yang, G., Kundu, A., Guibas, L. J., Barron, J. T., & Poole, B. (2023). Learning a Diffusion Prior for NeRFs. arXiv preprint arXiv:2304.14473.

Zhang, T., Ling, Z., **Yang, G.**, De Sa, C. (2019). QPyTorch: A Low-Precision Arithmetic Simulation Framework. In *Advances in Neural Information Processing Systems, EMC2 Workshops*. 2019

Yang, G., Malisiewicz, T., Belongie, S.(2019). Learning Data-Adaptive Interest Points through Epipolar Adaptation. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition Workshops* (pp. 1-7).

Poursaeed, O.*, **Yang, G.***, Prakash, A., Fang, Q., Jiang, H., Hariharan, B., & Belongie, S. (2018). Deep Fundamental Matrix Estimation without Correspondences. *In*

Proceedings of the European Conference on Computer Vision Workshops (ECCVW). (* Equal contributions)

PREPRINT

Wu, F., Lao, N., Blitzer, J., **Yang, G.**, & Weinberger, K. (2017). Fast Reading Comprehension with ConvNets. *arXiv preprint arXiv:1711.04352*.

TALKS

Geometry Processing with Discretization-Free Representation and Prior. Invited talk in the Pioneer Center for AI and the University of Copenhagen. [link]

PointFlow: 3D Point Cloud Generation with Continuous Normalizing Flows. Invited poster talk *In the first ECCV 2020 Workshop on Learning 3D Representations for Shape and Appearance* (ECCVW).

Learning Single-view 3D Reconstruction with Limited Pose Supervision. Invited talk *In the 2019 Scene Understanding and Modeling (SUMO) Workshop* (CVPRW).

TEACHING

CS 233 (Geometric and Topological Data Analysis)	Winter 2024
CS 5785 (Applied Machine Learning)	Fall 2022
ECE 5545 (Machine Learning Hardware and Systems)	Spring 2022
CS 5785 (Applied Machine Learning)	Fall 2019
CS 6670 (Graduate Computer Vision)	Fall 2018
CS 4780 (Machine Learning for Intelligent Systems)	Spring 2017, Spring 2018
CS 3110 (Data Structures and Functional Programming)	Fall 2015, Spring 2016
CS 2049 (Intermediate iOS)	Spring 2016
CS 2048 (Introductory iOS)	Fall 2015

AWARD

NVIDIA Graduate Fellowship Finalist 2020

SERVICE

Workshop Co-organizers	The CV4ARVR Workshop in CVPR 2019-2022
Reviewers	CVPR, ICCV, ECCV, IJCV, SIGGRAPH, NeurIPS,