Sharon Zhang

CONTACT

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addr Gates 398, 353 Jane Stanford Way, Stanford, CA 94305

INTERESTS

Creative support tools, vector graphics, computational design, image synthesis, video editing, visual programming.

EDUCATION

Stanford University

2021 - Current PhD in Computer Science
Advisor: Maneesh Agrawala

Princeton University

2017 - 2021 A.B. in Mathematics with honors · Minor in Computer Science
Thesis: *Contextual Bias and Interpretability in Visual Classification*
Advisor: Olga Russakovsky

RESEARCH EXPERIENCE

Visual AI Lab, *Princeton University*

2020 - 2021 Advisor: Olga Russakovsky
Investigated interpretability methods and contextual bias mitigation in visual classifiers.
Team member for the Maching Learning Reproducibility Challenge.

Department of Mathematics, *Princeton University*

2020 Advisor: Amit Singer
Worked on algorithms for product manifold learning.

SMALL REU, *Williams College*

2019 Advisor: Susan Loepp
Undergraduate researcher in the 2019 Commutative Algebra cohort.

INDUSTRY EXPERIENCE

Research Intern, *Google*

2021 Worked on layered video representations with the Visual Dynamics team. Hosted by Jonathan Huang and Vivek Rathod.

Software Engineering Intern, *Google*

2020 Hosted by the Android Camera Machine Intelligence team. Designed and implemented an open-sourced API for Android developers to incorporate Google motion photos.

PUBLICATIONS

Sharon Zhang, Jiaju Ma, Daniel Ritchie, Jiajun Wu, Maneesh Agrawala. "Editing Motion Graphics Video via Motion Vectorization and Transformation." *SIGGRAPH Asia*, 2023.

Chen Geng*, Hong-Xing Yu*, **Sharon Zhang**, Maneesh Agrawala, Jiajun Wu. "Tree-Structured Shading Decomposition." *International Conference on Computer Vision (ICCV)*, 2023.

Sunnie S. Y. Kim, **Sharon Zhang**, Nicole Meister, Olga Russakovsky. "[Re] Don't Judge an Object By It's Context: Overcoming Contextual Bias." Machine Learning Reproducibility Challenge 2020. In *ReScience C* Journal.

Sharon Zhang, Amit Moscovich, Amit Singer. "Product Manifold Learning." *Artificial Intelligence and Statistics (AISTATS)*, 2021.

Erica Barrett*, Emil Graf*, Kimball Strong*, **Sharon Zhang***, S. Loepp. "Cardinalities of Prime Spectra of Precompletions." AMS *Contemporary Mathematics: "Commutative Algebra: 150 Years with Roger and Sylvia Wiegand."* **773** (2021), 133–152.

Erica Barrett*, Emil Graf*, Kimball Strong*, **Sharon Zhang***, S. Loepp. "Structure of spectra of precompletions." *Rocky Mountain J. Math.* **50** (2020), no. 6, 1965–1988.

TALKS

Sharon Zhang and Emil Graf. 2019. "Prime Ideals of a Local Ring and Prime Ideals of Its Completion." MathFest 2019. 31 Jul 2019 – 3 Aug 2019. Cincinnati, OH, USA.

AWARDS

2023 - 2026	NSF Graduate Research Fellowship
2023	Ford Foundation Fellowship Honorable Mention
2023	Paul & Daisy Soros Fellowship Finalist
2022	Brown Institute for Media Innovation Magic Grant
2021	Middleton Miller '29 Prize, *awarded for best independent work in mathematics*
2021	NSF Graduate Research Fellowship Honorable Mention

COMPUTER SKILLS

Languages	Python, Java, HTML/CSS, C/C++, bash shell scripting
Software & Tools	JAX, PyTorch, TensorFlow, Git, CVX, LaTeX, Google Cloud, Adobe Creative Suite

ACTIVITIES

2023	Organizer, Stanford Graphics Café
2021	Reviewer, AISTATS
2020	Undergraduate TA, COS 429: Computer Vision
2019	Peer Tutor, MAT 215: Honors Analysis
2019	Peer Tutor, COS 126: Introduction to Computer Science

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