

Howard Xiao

CONTACT INFORMATION	Room 241, David Packard Electrical Engineering 350 Jane Stanford Way, Stanford, CA 94305	E-mail: howardx@stanford.edu Website: https://howardxiao.ca/
SUMMARY	I am a second-year PhD student at the Stanford Physical and Spatial Intelligence Lab, advised by Prof. Gordon Wetzstein. My current research focuses on image and video generation models. I am interested in the fundamentals of diffusion models, long-context modeling and causal video generation, and applying generative models and machine learning algorithms to design intelligent physical AI systems.	
EDUCATION	PhD, Electrical Engineering Stanford University , Stanford, CA, United States Advisor: Prof. Gordon Wetzstein GPA: 4.30/4.30 Honours Bachelor of Science University of Toronto , Toronto, ON, Canada Computer Science Specialist and Mathematics Specialist GPA: 3.86/4.00	Since September 2025 September 2020 – June 2025
PUBLICATIONS	[1] Howard Xiao, Brian Chao, Lior Yariv, Gordon Wetzstein Spectral Progressive Diffusion for Efficient Image and Video Generation Preprint, 2026 [2] Howard Xiao, Jan Ackermann, Boyang Deng, Gordon Wetzstein Policy-based Foveated Imaging and Perception SIGGRAPH, 2026 [3] Brian Chao*, Lior Yariv*, Howard Xiao, Gordon Wetzstein Foveated Diffusion: Efficient Spatially Adaptive Image and Video Generation Preprint, 2026 [4] Sotiris Nousias*, Mian Wei*, Howard Xiao, Maxx Wu, Shahmeer Athar, Kevin J Wang, Anagh Malik, David A. Barmherzig, David B. Lindell, Kyros Kutulakos Opportunistic Single-Photon Time of Flight CVPR, 2025 (<u>oral presentation</u>) [5] Anton Izosimov, Boris Khesin, Howard Xiao Virasoro extensions for diffeomorphisms with breaks Preprint, 2026	
AWARDS	[1] Stanford Graduate Fellowship in Science and Engineering (SGF) September 2025 – September 2028 [2] Undergraduate Student Research Awards (USRA) May 2024 – August 2024 Supervisor: Prof. Kyros Kutulakos, Prof. David Lindell Project title: <i>Ultra-wideband Single-photon 3D Imaging</i>	
EMPLOYMENT	<i>Software Developer Intern</i> , Bell Canada, Mississauga, ON During the 16-month internship, I utilized Python, Ruby, SQL, and the LangChain framework to fine-tune open-source LLMs into internal document retrieval and code generation tools.	May 2023 – August 2024
TEACHING	Advanced Linear Algebra, <i>University of Toronto</i> , Toronto, ON	May 2023 – May 2024
COMMUNITY ENGAGEMENT	<i>Activity Manager</i> , <i>Brighten A Day Toronto</i> , Toronto, ON	January 2024 – April 2025

