

# Howard Xiao

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CONTACT INFORMATION	Room 241, David Packard Electrical Engineering 350 Jane Stanford Way, Stanford, CA 94305	E-mail: <a href="mailto:howardx@stanford.edu">howardx@stanford.edu</a> Website: <a href="https://howardxiao.ca/">https://howardxiao.ca/</a>
SUMMARY	I am a first-year PhD student at Stanford Physical and Spatial Intelligence Lab, advised by Prof. Gordon Wetzstein. Previously, I was an undergraduate researcher at the Toronto Computational Imaging Group (TCIG), working under Prof. Kyros Kutulakos and Prof. David Lindell. My current research focuses on designing next-generation imaging and generative vision systems with unseen capabilities.	
EDUCATION	PhD, Electrical Engineering (Ongoing) Stanford University, Stanford, CA, United States Advisor: Prof. Gordon Wetzstein  Honours Bachelor of Science (Conferred June 2025) University of Toronto, Toronto, ON, Canada Computer Science Specialist and Mathematics Specialist, GPA: 3.86/4.00	
PUBLICATIONS	<ul style="list-style-type: none"><li>[1] Howard Xiao, Jan Ackermann, Boyang Deng, Gordon Wetzstein <i>Policy-based Foveated Imaging and Perception</i> SIGGRAPH Conference, 2026</li><li>[2] Howard Xiao, Brian Chao, Lior Yariv, Gordon Wetzstein <i>Spectral Progressive Diffusion for Efficient Image and Video Generation</i> Preprint, 2026</li><li>[3] Brian Chao*, Lior Yariv*, Howard Xiao, Gordon Wetzstein <i>Foveated Diffusion: Efficient Spatially Adaptive Image and Video Generation</i> Preprint, 2026</li><li>[4] Anton Izosimov, Boris Khesin, Howard Xiao <i>Virasoro extensions for diffeomorphisms with breaks</i> Preprint, 2026</li><li>[5] Sotiris Nousias*, Mian Wei*, Howard Xiao, Maxx Wu, Shahmeer Athar, Kevin J Wang, Anagh Malik, David A. Barmherzig, David B. Lindell, Kyros Kutulakos <i>Opportunistic Single-Photon Time of Flight</i> IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2025 (<a href="#">oral presentation</a>)</li></ul>	
AWARDS	<ul style="list-style-type: none"><li>[1] <i>Stanford Graduate Fellowship in Science and Engineering (SGF)</i>, September 2025</li><li>[2] <i>Undergraduate Student Research Awards (USRA) – Natural Sciences and Engineering Research Council of Canada (NSERC)</i>, May 2024 – August 2024 Supervisor: Prof. Kyros Kutulakos, Prof. David Lindell Project title: <i>Ultra-wideband Single-photon 3D Imaging</i></li><li>[3] <i>Undergraduate Student Research Awards (USRA) – Natural Sciences and Engineering Research Council of Canada (NSERC)</i>, May 2024 – August 2024 Supervisor: Prof. Boris Khesin Project title: <i>Groupoids in Mathematical Physics</i></li></ul>	
EMPLOYMENT	<i>Software Developer Intern, Bell Canada, Mississauga, ON</i> During the 12-month internship, I utilized Python, Ruby, SQL, as well as Ollama and Langchain framework to fine-tune open-sourced large language model into internal document retrieval and code generator tools. I also initiated various projects related to generative AI in daily work tasks.	May 2023 – May 2024