

Xindi (Cindy) Wu

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Education

Princeton University

Ph.D. student, Computer Science Department, School of Engineering and Applied Science

Advisor: Olga Russakovsky

Princeton, NJ

Aug. 2022 - Now

Carnegie Mellon University

Master of Science in Computer Vision, Robotics Institute, School of Computer Science

Advisor: Deva Ramanan

Pittsburgh, PA

Aug. 2020 - Dec. 2021

Xi'an Jiaotong University

Bachelor of Science in Computer Science, Honors Youth Program

Advisors: Jinjun Wang & Pengju Ren

Xi'an, China

Sept. 2016- July 2020

Award

ECCV 2024 Dataset Distillation Workshop Best Paper Award: Vision-Language Dataset Distillation.

Sept. 2024

Publications & Preprints

- [1] [COMPACT: COMpositional Atomic-to-Complex Visual Capability Tuning](#)
X. Wu*, H. S. Hwang*, P. Kirichenko, O. Russakovsky Preprint 2025
- [2] [ICONS: Influence Consensus for Vision-Language Data Selection](#)
X. Wu, M. Xia, R. Shao, Z. Deng, PW Koh, O. Russakovsky Preprint 2025
- [2] [Explain Before You Answer: A Survey on Compositional Visual Reasoning](#)
F. Ke, ..., **X. Wu**, ..., H. Rezatofighi Preprint 2025
- [3] [Corgi: Cashed Memory-Guided Video Generation](#)
X. Wu, U. Singer, Z. Lin, A. Madotto, X. Xia, PA. Crook, YE. Xu, XL. Dong, S. Moon WACV 2025
- [4] [ConceptMix: A Compositional Image Generation Benchmark with Controllable Difficulty](#)
X. Wu*, D. Yu*, Y. Huang*, O. Russakovsky, S. Arora NeurIPS D&B 2024
- [5] [Vision-Language Dataset Distillation](#)
X. Wu, B. Zhang, Z. Deng, O. Russakovsky TMLR 2024
- [6] [SWE-bench Multimodal: Do AI Systems Generalize to Visual Software Domains?](#)
J. Yang*, C. Jimenez*, ..., **X. Wu**, ..., O. Press ICLR 2025
- [7] [CharXiv: Charting Gaps in Realistic Chart Understanding in Multimodal LLMs](#)
Z. Wang, ..., **X. Wu**, ..., D. Chen NeurIPS D&B 2024
- [8] [Language Models as Science Tutors](#)
A. Chevalier, ..., **X. Wu**, ..., D. Chen ICML 2024
- [9] [Pix2Map: Cross-modal Retrieval for Inferring Street Maps from Images](#)
X. Wu, K. Lau, F. Ferroni, A. Osep, D. Ramanan CVPR 2023
- [10] [Ego4D: Around the World in 3,000 Hours of Egocentric Video](#)
K. Grauman, ..., **X. Wu**, ..., Jitendra Malik CVPR 2022
- [11] [Toward Learning Robust and Invariant Representations with Alignment Regularization and Data Augmentation](#)
H. Wang, Z. Huang, **X. Wu** and EP. Xing KDD 2022
- [12] [CryoETGAN: Cryo-electron Tomography Image Synthesis Using Unpaired Image Translation](#)
X. Wu, C. Li, H. Wei, H. Deng, J. Zhang and M. Xu Frontiers in Physiology Computational Physiology and Medicine, 2022
- [13] [Squared l2 Norm as Consistency Loss for Leveraging Augmented Data to Learn Robust and Invariant Representations](#)
H. Wang, Z. Huang, **X. Wu** and EP. Xing Arxiv 2021
- [14] [Marrying Motion Forecasting and Offline Model-Based Reinforcement Learning for Self-Driving Cars](#)
S. Pande and **X. Wu** Preprint 2021
- [15] [High Frequency Component Helps Explain the Generalization of Convolutional Neural Networks.](#)
H. Wang, **X. Wu**, Z. Huang, EP. Xing CVPR 2020
- [16] [Transferable Adversarial Attacks on Deep Reinforcement Learning](#)
X. Pan, Y. Cao, **X. Wu**, E. Zelikman, C. Xiao, Y. Sui, R. Chakraborty, RS. Fearing Workshop on Adversarial ML at CVPR 2020
- [17] [Reducing Exploitation of Data Idiosyncrasy Helps Robustify Trained Models](#)
X. Wu, H. Wang, E. Zelikman, M. Xu and EP. Xing Preprint 2020
- [18] [Regularized Adversarial Training \(RAT\) for Robust Cellular Electron Cryo Tomograms Classification](#)
X. Wu, Y. Mao, H. Wang, X. Zeng, X. Gao, EP. Xing, M. Xu BIBM 2019
- [19] [Template-based and Template-free Approaches in Cellular Cryo-electron Tomography Structural Pattern Mining.](#)
X. Wu, X. Zeng, Z. Zhu, X. Gao and M. Xu Computational Biology, Codon Publications, Brisbane, Australia, 2019

- [20] [Deep Self-Paced Learning for Semi-supervised Person Re-identification Using Multi-View Self-Paced Clustering](#)
X. Xin, **X. Wu**, Y. Wang, J. Wang ICIP 2019
- [21] [Multitask Learning With Enhanced Modules](#)
Z. Zheng, Y. Wei, Z. Zhao, **X. Wu**, Z. Li and P. Ren DSP 2018

Experiences

NVIDIA, Spatial Intelligence Lab	<i>Santa Clara, CA</i>
<i>Research Scientist Intern w/ Prof. Sanja Fidler</i>	<i>May 2025 - Now</i>
Meta Reality Lab, Smart Glass AI Team	<i>Redmond, WA</i>
<i>Research Scientist Intern w/ Dr. Shane Moon</i>	<i>May 2023 - Aug. 2023</i>
Snap Inc., Perception Team	<i>New York, NY</i>
<i>Machine Learning Engineer</i>	<i>Feb. 2022 - Aug. 2022</i>
CMU Argo AI Center for Autonomous Vehicle Research	<i>Pittsburgh, PA</i>
<i>CMU Sponsered Capstone Research Assistant w/ Prof. Deva Ramanan</i>	<i>Jan. 2021 - Jan. 2022</i>
Snap Inc., Perception Team	<i>New York, NY</i>
<i>Research Intern w/Dr. Alireza Zareian and Dr. Chen Wang</i>	<i>May 2021 - Aug. 2021</i>
Megvii Research (Face++)	<i>Beijing, China</i>
<i>Computer Vision Research Intern w/ Banghuai Li</i>	<i>June 2020 - Sept. 2020</i>

Talks and Poster Presentations

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- From Data to Capability: Data for efficient multimodal machine learning *Datology AI Summer of Data Seminar, June 2025*
 - ConceptMix: A Compositional Image Generation Benchmark with Controllable Difficulty *NeurIPS, Vancouver, Dec. 2024*
 - Corgi: Cached Memory Guided Video Generation *ECCV AI for Visual Arts Workshop, Milan, Oct. 2024*
 - Vision-Language Dataset Distillation *ECCV Dataset Distillation Workshop, Milan, Oct. 2024*
 - ConceptMix: A Compositional Image Generation Benchmark with Controllable Difficulty *ECCV Knowledge in Generative Models Workshop, Milan, Oct. 2024*
 - Compositional Generation Evaluation *Google Research, New York, July 2024*
 - Scaling Down before Scaling Up: Recent Progress on Dataset Distillation *CVPRW Dataset Distillation, Seattle, June 2024*
 - Corgi: Compositional Memory-Guided Video Generation *NYC Vision Day, New York, Nov. 2023*
 - Pix2Map: Cross-modal Retrieval for Inferring Street Maps from Images *CVPR, Vancouver, June 2023*
 - Regularized Adversarial Training for Robust Cellular Electron Cryo Tomograms Classification *BIBM, San Diego, Nov. 2019*

Professional Service

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- **Organizer** - ICCV 25' Curated Data for Efficient Learning Workshop
 - **Reviewer** - Neurips 25'/24'/23', ICLR 25'/24', ICML 25'/24', CVPR 25'/24'/23'/22', ICCV 25'/23', ECCV 24'/22', TMLR, ICRA 24', ACCV 24', ICLR 23' Workshop ME-FoMo, Neurips Interpolate Workshop 22', BMVC 20', IJCAI 20'
 - **Committee Member** - Diversity, Equity and Inclusion Committee in Robotics Institute, CMU
 - **Volunteer** - vGHC(Grace Hopper Celebration of Women in Computing) Volunteer 2021
 - **Panelist** - Robotics Institute MS Student Panel, 2021, Robotics Institute Summer Scholars (RISS) program 2021
 - **Co-Host** - Weekly RI Meets! 2021
 - **Mentor** - CMU Society of Women Engineers (SWE) mentoring program 2021

Teaching

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- TA: COS 429 Computer Vision by Vikram V. Ramaswamy and Felix Heide *Princeton, Spring 2024*
 - TA: COS 597O Advanced Topics in Computer Science: Deep Generative Models by Adji Bousso Dieng *Princeton, Fall 2023*