

ZIYI WU

Toronto, Ontario M5S 1A1 Canada

ziyiwu@cs.toronto.edu ♦ <https://wuziyi616.github.io/>

EDUCATION

University of Toronto, Toronto, ON, Canada

Sept. 2021 – Present

Ph.D. in Computer Science

Advisor: Prof. [Igor Gilitschenski](#)

Tsinghua University, Beijing, P.R.China

Aug. 2017 – Jun. 2021

B.Eng. in Automation

Advisor: Prof. [Jiwen Lu](#)

EXPERIENCE

Google DeepMind, Toronto

June. 2025 – Present

Student Researcher

Mentor: Dr. [Saurabh Saxena](#)

Generation

Snap Research, Remote

Feb. 2025 – May. 2025

Research Intern

Mentor: Dr. [Aliaksandr Siarohin](#)

Post-training for video diffusion

Snap Research, LA

Jun. 2024 – Dec. 2024

Research Intern

Mentor: Dr. [Aliaksandr Siarohin](#)

Controllable video generation

Google DeepMind, Remote

Dec. 2023 – Jun. 2024

Student Researcher

Mentor: Dr. [Thomas Kipf](#)

3D-aware controllable image generation

Vector Institute, Toronto

Sept. 2021 – Present

Student Researcher

OpenMMLab, SenseTime, Beijing

Mar. 2021 – Aug. 2021

Research Intern

Mentor: Dr. [Kai Chen](#), Dr. [Wenwei Zhang](#)

Develop open source codebase for 3D scene understanding ([MMDetection3D](#))

SELECTED PUBLICATIONS & MANUSCRIPTS

* indicates equal contribution/supervision

Journal Papers

1. **Learning Efficient Binarized Object Detectors with Information Compression**

[Ziwei Wang](#), [Jiwen Lu](#), [Ziyi Wu](#), [Jie Zhou](#).

T-PAMI, 2021.

Conference Papers

1. **Mind the Time: Temporally-Controlled Multi-Event Video Generation**

[Ziyi Wu](#), [Aliaksandr Siarohin](#), [Willi Menapace](#), [Ivan Skorokhodov](#), [Yuwei Fang](#), [Varnith Chordia](#), [Igor Gilitschenski](#)*, [Sergey Tulyakov](#)*.

CVPR, 2025.

2. **SG-I2V: Self-Guided Trajectory Control in Image-to-Video Generation**
Koichi Namekata, Sherwin Bahmani, [Ziyi Wu](#), Yash Kant, Igor Gilitschenski, David B. Lindell.
ICLR, 2025.
3. **Neural Assets: 3D-Aware Multi-Object Scene Synthesis with Image Diffusion Models**
[Ziyi Wu](#), Yulia Rubanova, Rishabh Kabra, Drew A. Hudson, Igor Gilitschenski, Yusuf Aytar, Sjoerd van Steenkiste, Kelsey Allen, Thomas Kipf.
NeurIPS, 2024 (Spotlight).
4. **LEOD: Label-Efficient Object Detection for Event Cameras**
[Ziyi Wu](#), Mathias Gehrig, Qing Lyu, Xudong Liu, Igor Gilitschenski.
CVPR, 2024.
5. **SPAD: Spatially Aware Multiview Diffusers**
Yash Kant, [Ziyi Wu](#), Michael Vasilkovsky, Guocheng Qian, Jian Ren, Riza Alp Guler, Bernard Ghanem, Sergey Tulyakov*, Igor Gilitschenski*, Aliaksandr Siarohin*.
CVPR, 2024.
6. **SlotDiffusion: Object-Centric Generative Modeling with Diffusion Models**
[Ziyi Wu](#), Jingyu Hu*, Wuyue Lu*, Igor Gilitschenski, Animesh Garg.
NeurIPS, 2023 (Spotlight) | *ICLR@NeSy-GeMs Workshop*, 2023.
7. **SlotFormer: Unsupervised Visual Dynamics Simulation with Object-Centric Models**
[Ziyi Wu](#), Nikita Dvornik, Klaus Greff, Thomas Kipf*, Animesh Garg*.
ICLR, 2023 | *UAI@CRL Workshop*, 2022 | *ECCV@MVCS Challenge*, 2022.
8. **Breaking Bad: A Dataset for Geometric Fracture and Reassembly**
Silvia Sellán*, Yun-Chun Chen*, [Ziyi Wu](#)*, Animesh Garg, Alec Jacobson.
NeurIPS Datasets and Benchmarks Track (Featured Paper Presentation), 2022.
9. **Instance Similarity Learning for Unsupervised Feature Representation**
[Ziwei Wang](#), Yunsong Wang, [Ziyi Wu](#), Jiwen Lu, Jie Zhou.
ICCV, 2021.
10. **BiDet: An Efficient Binarized Object Detector**
[Ziwei Wang](#), [Ziyi Wu](#), Jiwen Lu, Jie Zhou.
CVPR, 2020.

INVITED TALK

Talk at Google DeepMind Toronto	Apr. 2025
Controllable Generation with Diffusion Models (SPAD, Neural Assets, SG-I2V, MinT)	
Invited talk at Vector Institute	Jan. 2025
Neural Assets: 3D-Aware Multi-Object Scene Synthesis with Image Diffusion Models	
Invited talk in Prof. Kun Zhang 's group	Feb. 2023
Invited talk in Neuroinformatics Group	Nov. 2022
Winner talk at ECCV@MVCS Workshop CLEVRER Track	Oct. 2022
SlotFormer: Unsupervised Visual Dynamics Simulation with Object-Centric Models	

HONORS & AWARDS

• Outstanding reviewer at CVPR 2025 and CVPR@CVCU Workshop	2025
• Outstanding reviewer at NeurIPS 2024	2024
• Outstanding reviewer at NeurIPS 2023	2023

- 1st place in CLEVRER track at [MVCS Challenge](#) (ECCV 2022 Workshop) 2022
- Outstanding Graduates (Beijing & Tsinghua University & Dept. of Automation) 2021
- [SenseTime Undergraduate Scholarship for AI Research](#) 2020
- [Xiaomi Scholarship](#), Tsinghua University 2020
- Fang Chongzhi Scholarship, Tsinghua University 2019
- **Chinese National Scholarship** 2018
- Spark Program Membership, Tsinghua University

ACADEMIC SERVICES

Conference Reviewer/PC Member

- IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2022-25
- International Conference on Computer Vision (ICCV) 2023-25
- European Conference on Computer Vision (ECCV) 2022-24
- Conference on Neural Information Processing Systems (NeurIPS) 2022-24
- International Conference on Machine Learning (ICML) 2023-25
- International Conference on Learning Representations (ICLR) 2024-25
- Association for the Advancement of Artificial Intelligence (AAAI) 2023-24
- International Joint Conference on Artificial Intelligence (IJCAI) 2024
- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2022
- IEEE International Conference on Robotics and Automation (ICRA) 2023-24

Journal Reviewer

- IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)
- Transactions on Machine Learning Research (TMLR)
- International Symposium of Robotic Research (ISRR)
- IEEE Robotics and Automation Letters (RA-L)

Workshop Reviewer

- [ICLR@OSC Workshop](#) 2022
- [CVPR@CVEU Workshop](#) 2025

Seminar Co-Organizer

- [Toronto AI in Robotics \(AIR\) Seminar](#) 2022-23