

# Ayush Shrivastava

<https://ayshrv.com>

Email : [ayshrv@umich.edu](mailto:ayshrv@umich.edu)

Mobile : +1 (470) 449-5216

## EDUCATION

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<b>University of Michigan</b>	Ann Arbor, USA
• <i>Ph.D. in Computer Science and Engineering</i>	<i>Aug 2021 – Present</i>
Advisor: <a href="#">Prof. Andrew Owens</a>	
<b>Georgia Institute of Technology</b>	Atlanta, USA
• <i>Master of Science in Computer Science (Specialization: Machine Learning)</i>	<i>Aug 2019 – May 2021</i>
GPA: 4.0/4.0, Advisor: <a href="#">Prof. Devi Parikh</a>	
<b>Indian Institute of Technology (BHU) Varanasi</b>	Varanasi, India
• <i>Bachelor of Technology in Computer Science and Engineering</i>	<i>Jul 2014 – May 2018</i>
GPA: 9.20/10.0	

## AWARDS

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- Received the **PAMI Mark Everingham Prize Career Award (2025)**.

## PUBLICATIONS (\* DENOTES EQUAL CONTRIBUTION)

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- **Point Prompting: Counterfactual Tracking with Video Diffusion Models** [[paper link](#)]  
Ayush Shrivastava<sup>\*</sup>, Sanyam Mehta<sup>\*</sup>, Daniel Geng, Andrew Owens  
*arXiv, 2025*
- **Fine-grained Defocus Blur Control for Generative Image Models** [[paper link](#)]  
Ayush Shrivastava, Connelly Barnes, Xuaner Zhang, Lingzhi Zhang, Andrew Owens, Sohrab Amirghods, Eli Shechtman  
*Winter Conference on Applications of Computer Vision (WACV) 2026*
- **Self-Supervised Spatial Correspondence Across Modalities** [[paper link](#)]  
Ayush Shrivastava, Andrew Owens  
*Conference on Computer Vision and Pattern Recognition (CVPR) 2025*
- **Self-Supervised Any-Point Tracking by Contrastive Random Walks** [[paper link](#)]  
Ayush Shrivastava, Andrew Owens  
*European Conference on Computer Vision (ECCV) 2024*
- **EXIF as Language: Learning Cross-Modal Associations Between Images and Camera Metadata** [[paper link](#)]  
Chenhao Zheng, Ayush Shrivastava, Andrew Owens  
*Conference on Computer Vision and Pattern Recognition (CVPR) 2023, Highlight*
- **TEACH: Task-driven Embodied Agents that Chat** [[paper link](#)]  
Aishwarya Padmakumar<sup>\*</sup>, Jesse Thomason<sup>\*</sup>, Ayush Shrivastava, Patrick Lange, Anjali Narayan-Chen, Spandana Gella, Robinson Piramuthu, Gokhan Tür, Dilek Hakkani-Tür  
*Conference on Artificial Intelligence (AAAI) 2022*
- **VISITRON: Visual Semantics-Aligned Interactively Trained Object-Navigator** [[paper link](#)]  
Ayush Shrivastava, Karthik Gopalakrishnan, Yang Liu, Robinson Piramuthu, Gokhan Tür, Devi Parikh, Dilek Hakkani-Tür  
*Findings of Association for Computational Linguistics (ACL) 2022*  
*NAACL 2021 Visually Grounded Interaction and Language (ViGIL) Workshop*
- **Sim-to-Real Transfer for Vision-and-Language Navigation** [[paper link](#)]  
Peter Anderson, Ayush Shrivastava, Joanne Truong, Arjun Majumdar, Devi Parikh, Dhruv Batra, Stefan Lee  
*Conference on Robot Learning (CoRL) 2020*

- **Improving Vision-and-Language Navigation with Image-Text Pairs from the Web** [paper link]  
Arjun Majumdar, Ayush Shrivastava, Stefan Lee, Peter Anderson, Devi Parikh, Dhruv Batra  
*European Conference on Computer Vision (ECCV) 2020, Spotlight (Top 5%)*  
*ICML 2020 LaReL Workshop, Best Paper Honorable Mention*
- **Chasing Ghosts: Instruction Following as Bayesian State Tracking** [paper link]  
Peter Anderson\*, Ayush Shrivastava\*, Devi Parikh, Dhruv Batra, Stefan Lee  
*Neural Information Processing Systems (NeurIPS) 2019*

## WORK EXPERIENCE

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- **Adobe Research** Seattle, WA  
*Research Scientist Intern* | Supervisor: *Connelly Barnes, Eli Shechtman* May 2025 - Present
  - Working on improving the efficiency of video generation models using token pruning techniques.
- **University of Michigan** Ann Arbor, MI  
*Graduate Research Assistant* | Supervisor: *Prof. Andrew Owens* Aug 2021 - Present
  - Working on problems related to learning correspondences from video, image & video generation.
- **Adobe Research** Seattle, WA  
*Research Scientist Intern* | Supervisor: *Connelly Barnes, Eli Shechtman* May 2024 - Nov 2024
  - Built a novel text-to-image diffusion model leveraging camera metadata to precisely control defocus blur while preserving scene content. Published at *WACV 2026*.
- **Amazon Alexa AI** Remote  
*Applied Scientist Intern* | Supervisor: *Prof. Jesse Thomason, Robinson Piramuthu* May 2021 - Aug 2021
  - Worked on **TEACH**, a new benchmark released for human–human, interactive dialogues to complete household tasks in simulation on AI2-THOR. Published at *AAAI 2022*.
- **Amazon Alexa AI** Remote  
*Applied Scientist Intern* | Supervisor: *Dilek Hakkani-Tür* May 2020 - Aug 2020
  - Built embodied agents that solve a navigation task by holding dialog in a cooperative setting. Published at *Findings of ACL 2022*.
- **Georgia Institute of Technology** Atlanta, GA  
*Graduate Research Assistant* | Supervisor: *Prof. Devi Parikh* Aug 2019 - May 2021
  - Worked on problems related to Embodied AI and Vision & Language
  - Worked on using BERT-style models to better ground navigation instruction in 3D environments. Published at *ECCV 2020*.
  - Transferred instruction following agents trained in simulation to robots in real world. Published at *CoRL 2020*.
- **Georgia Institute of Technology** Atlanta, GA  
*Visiting Research Scholar* | Supervisor: *Prof. Devi Parikh, Prof. Dhruv Batra* Aug 2018 - May 2019
  - Worked on solving navigation instruction following in 3D environments by following an ideal agent trajectory. Published at *NeurIPS 2019*.

## SERVICE ROLES AND ACADEMIC ACTIVITIES

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**Reviewer:** ICCV [2021], NeurIPS [2021], ICLR [2022, 2024, 2026], CVPR [2023], ACL [2024], ECCV [2024]  
**Challenge Organization:** VQA Challenge [2019, 2020, 2021], Visual Dialog Challenge [2018, 2019, 2020]  
**Workshop Organization:** Visual Question Answering & Dialog Workshop, CVPR [2019, 2020, 2021]