

SHIVANSH PATEL

🌐 <https://shivanshpatel35.github.io> ✉ shivanshpatel35@gmail.com

Education

University of Illinois at Urbana Champaign

Aug. 2021 – Present

Ph.D. in Computer Science, Advisor: Svetlana Lazebnik; GPA: 3.88/4.0

Indian Institute of Technology Kanpur

Aug. 2016 – July. 2020

Bachelor of Technology, Electrical Engineering; GPA: 9/10

Research Interests

Robotic Manipulation, Simulation

Publications

- Generalizable VLA Finetuning via Representation Anchoring and Language-Action Alignment.**
D. Dalal, **S. Patel**, ..., H. Ji, S. Lazebnik, U. Jain. Under Review. [PDF](#) | [Project](#) | [Code](#)
- Physics-Guided Residual Dynamics for Deformable Object Simulation.**
S. Patel, K. Zhang, S. Pokkali, S. Lazebnik, Y. Li. CoRL 2026. [PDF](#) | [Project](#) | [Code](#)
- CRAFT: A Tendon-Driven Hand with Hybrid Hard-Soft Compliance.**
L. Lin* **S. Patel***, J. Moon*, S. Lazebnik, U. Jain. RSS, 2026. [PDF](#) | [Project](#) | [Code](#)
- BoxTwin: Learning Elastoplastic Articulated Object Dynamics from Videos.**
H. Zhang*, G. Zheng*, K. Zhang, J. Song, **S. Patel**, ..., P. Y. Chen. IROS RoDGE Workshop, 2025. [PDF](#)
- Robotic Manipulation by Imitating Generated Videos with Zero Training Demos.**
S. Patel, S. Mohan, A. Mai, U. Jain*, S. Lazebnik*, Y. Li*. ICLR, 2026. [PDF](#) | [Project](#) | [Code](#)
- A Real-to-Sim-to-Real Approach to Robotic Manipulation with VLM-Generated Iterative Keypoint Rewards.**
S. Patel*, X. Yin*, W. Huang, S. Garg, H. Nayyeri, L. Fei-Fei, S. Lazebnik, Y. Li. ICRA, 2025. [PDF](#) | [Project](#) | [Code](#)
- Language-Aligned Waypoint (LAW) Supervision for Vision-and-Language Navigation in Continuous Environments.**
S. Raychaudhuri, S. Wani, **S. Patel**, U. Jain, A. X. Chang. EMNLP, 2021. [PDF](#) | [Project](#) | [Code](#)
- Interpretation of Emergent Communication in Heterogeneous Collaborative Embodied Agents.**
S. Patel*, S. Wani*, U. Jain*, A. Schwing, S. Lazebnik, M. Savva, A. X. Chang. ICCV, 2021. [PDF](#) | [Project](#) | [Code](#)
- MultiON: Benchmarking Semantic Map Memory using Multi-Object Navigation.**
S. Wani*, **S. Patel***, U. Jain*, A. X. Chang, M. Savva. NeurIPS, 2020. [PDF](#) | [Project](#) | [Code](#)
- Robust Explanations for Visual Question Answering.**
B. N. Patro, **S. Patel**, V. P. Namboodiri. WACV, 2020. [PDF](#) | [Code](#)
- U-CAM: Visual Explanation using Uncertainty based Class Activation Maps.**
B. N. Patro, M. Lunayach, **S. Patel**, V. P. Namboodiri. ICCV, 2019. [PDF](#) | [Project](#) | [Code](#)
- Granular Multimodal Attention Networks for Visual Dialog.**
B. N. Patro, **S. Patel**, V. P. Namboodiri. ICCV ISV Workshop, 2019. [PDF](#)

Ongoing Projects

- Evaluating Real-World Policies in Reconstructed Simulations:** Investigating training practices that maximize sim-real performance correlation by creating a digital twin in simulation.
T. Xu*, **S. Patel***, S. Lazebnik, Y. Li.
- Multi-Policy Behavior Distillation through World Model Rollouts:** Distilling desirable behaviors from multiple policies into a unified policy by rolling out trajectories in a world model, automatically filtering high-quality demonstrations, and training a single policy on the curated data.
K. Badrinath*, S. Zhu*, **S. Patel***, S. Lazebnik, U. Jain.

Internships

SceniX AI, *Research Intern*, New York, USA

Summer 2025

- See publication #2 and #4

Simon Fraser University (SFU), *Visiting Scholar*, Burnaby, Canada

Dec 2019 – Aug 2020

- See publication #7, #8, and #9

Teaching

Graduate Teaching Assistant, Deep Learning for Computer Vision (CS444) and Computer Vision (CS543), UIUC

Academic Services

- Challenge Leads: Multi-Object Navigation (MultiON) Challenge, Embodied AI Workshop, CVPR 2021
- Workshop Program Committee: eXplainable AI for debugging, NeurIPS 2021; Embodied AI Workshop, CVPR 2021
- Reviewer: ICRA 26, 25; CORL 25; IROS 25; ICCV 23; CVPR 26, 24; ECCV 22; TPAMI, RA-L, IJCV

Talks

- Nvidia Cosmos Team and Tesla Optimus Team, *Simulation-First Robot Learning: Generating Supervision and Physics for Robotic Manipulation*

References

- Svetlana Lazebnik, Professor, UIUC
- Yunzhu Li, Assistant Professor, Columbia University
- Unnat Jain, Assistant Professor, UCI
- Manolis Savva, Associate Professor, SFU
- Angel X. Chang, Associate Professor, SFU
- Vinay Nambodiri, Faculty Member, University of Bath

Mentees (● = active)

- Tongmiao Xu (MS CS UIUC → SceniX AI) ●
- Keshav Badrinath (BS CS UIUC → Meta) ●
- Stephen Zhu (BS CS UIUC)
- Leo Lin (BS CE UIUC → Amazon Robotics)
- Jay Moon (BS IE)
- Sanjay Pokkali (MCS UIUC → Slip Robotics)
- Shraddhaa Mohan (MCS UIUC → SceniX AI)
- Advait Patel (BS CS UIUC → Mind Robotics)
- Xinchun Yin (ZJU-UIUC → MS CS Gatech)
- Nikash Walia (BS CS → Intuit)