

Available for Spring 2026 / Summer 2026 / Fall 2026 internships

EDUCATION	Carnegie Mellon University, Robotics Institute	Pittsburgh, PA, USA
	<i>Ph.D. in Robotics</i>	Aug 2023 - Aug 2028 (<i>Expected</i>)
	• Advisor: Prof. Shubham Tulsiani • Research: Physics-Informed Multimodal Generative World Models via Differentiable Simulation and Material Reasoning Agents • GPA: 4.10/4.00	
	Carnegie Mellon University, Robotics Institute	Pittsburgh, PA, USA
	<i>Master of Science in Robotics (MSR)</i>	Aug 2021 - May 2023
	• Advisor: Prof. Abhinav Gupta • Research: Multimodal Audio-Visual Contrastive Learning in Egocentric Videos • GPA: 4.08/4.00	
	Jaypee Institute of Information Technology (JIIT), Sector 62	Noida, India
	<i>Bachelor of Technology (Honors) , Computer Science & Engineering</i>	July 2015 - May 2019
	• Advisor: Prof. Anuja Arora • Research: Spatio-Temporal Graph Understanding using Graph Neural Networks (GNN) and Scene Graphs • GPA: 8.70/10.00	
PUBLICATIONS	1. Su Sun, Cheng Zhao, Himangi Mittal, Gaurav Mittal, Rohith Kukkala, Yingjie Victor Chen, Mei Chen. "Track4Animate3D: Animating Any 3D Model via Multi-View Diffusion with Point-Tracking Motion Priors". (under review). 2. H. Mittal, Peiye Zhuang, Hsin-ying Lee, Shubham Tulsiani. "UniPhy: Learning a Unified Constitutive Model for Inverse Physics Simulation". CVPR 2025. 3. H. Mittal, Nakul Agarwal, Shao-Yuan Lo, Kwonjoon Lee. "Can't make an Omelette without Breaking some Eggs: Plausible Action Anticipation using Large Video-Language Models". CVPR 2024. 4. H. Mittal, Pedro Morgado, Unnat Jain, Abhinav Gupta. "Learning State-Aware Visual Representations from Audible Interactions". NeurIPS 2022. 5. H. Mittal, Brian Okorn, David Held. "Just go with the flow: Self-supervised scene flow estimation". CVPR 2020 (Oral – 5.7% acceptance rate). 6. H. Mittal, Arpit Jangid, Brian Okorn, David Held. "Self-Supervised Point Cloud Completion via Inpainting". BMVC 2021 (Oral – 3.3% acceptance rate). 7. Sahana Prabhu, H. Mittal, Rajesh Varagani, Sweccha Jha, Shivendra Singh. "Harnessing emotions for depression detection". Pattern Analysis & Applications Journal (PAA) 2021. 8. H. Mittal, Ajith Abraham, Anuja Arora. "Interpreting Context of Images using Scene Graphs". International Conference on Big Data Analytics (BDA) 2019. 9. Supriya Pandhre, H. Mittal, Manish Gupta, Vineeth N. Balasubramanian. "Stwalk: learning trajectory representations in temporal graphs". ACM India Joint International Conference on Data Science and Management of Data (CoDS-COMAD) 2018. 10. Anshika Chaudhary, H. Mittal, Anuja Arora. "Anomaly Detection using Graph Neural Networks". IEEE Intl. Conf. on ML, Big Data, Cloud & Parallel Computing 2019.	
PATENTS	H. Mittal , Nakul Agarwal, Shao-Yuan Lo, Kwonjoon Lee. "Plausible Action Anticipation for Large Video-Language Models". Patent No. 12386890, Application No. 18629275.	

PROFESSIONAL EXPERIENCE	Research Collaborator, Microsoft Redmond, WA Sept 2025 - Present • 4D Gaussian Assets Generation via Multi-View Diffusion and Point-Tracking
	Research Intern, Honda Research Institute (HRI) San Jose, CA May 2023 - Aug 2023 • Worked on Multimodal Large Language Models (MLLMs) for action anticipation on large-scale egocentric datasets (Ego4D, EPIC-Kitchens-100) to advance multimodal reasoning and agentic world models by ensuring plausibility and diversity of predicted actions (published in CVPR 2024).
	Research Assistant, Carnegie Mellon University (in collaboration with Argo AI) Pittsburgh, PA, USA Aug 2019 - July 2021 • Designed a state-of-the-art self-supervised learning algorithm for scene flow estimation on large-scale LiDAR point clouds on nuScenes and KITTI (published in CVPR 2020 (Oral)). • Developed an autoencoder-based self-supervised model for point cloud completion on synthetic dataset, Shapenet, and real-world LiDAR dataset, KITTI, to improve 3D perception from sparse, incomplete point clouds (published in BMVC 2021 (Oral)). • Worked on multimodal algorithms for autonomous driving in CARLA simulator on NoCrash benchmark to advance decision-making of autonomous systems.
	Research Intern, Robert Bosch Engineering and Business Solutions Pvt. Ltd., India (RBEI) Bangalore, India May 2018 - July 2018 • Built a Conv-LSTM model in PyTorch to detect stress levels from multimodal data using the DAIC-WOZ dataset (published in PAA 2021).
	Research Intern, Indian Institute of Technology (IIT) Hyderabad Hyderabad, India May 2017 - July 2017 • Developed a graph representation learning framework using DeepWalk algorithm on spatio-temporal graphs in NetworkX (Python), enabling classification and changing points of interest detection using SVMs (published in CoDS-COMAD 2018).
COURSEWORK	Physics-based Animation of Solids and Fluids (15-763), Computer Vision (16-720B), Multimodal Machine Learning (11-777), Visual Learning & Recognition (16-824), Machine Learning (10-601), Research2Startup (16-737A), Deep Learning for Robotics (16-884 A), NLP, Data Structures & Algorithms
TECH SKILLS	Pytorch, Tensorflow, Python, C/C++, Taichi, NVIDIA Warp, Differentiable Simulation, Material Point Method (MPM), Genesis, Houdini, Blender, JAX
ACADEMIC SERVICES	Reviewer: ICCV 2021 / 2023, CVPR 2022 / 2023 / 2024 / 2025, NeurIPS 2023 / 2025, ICML 2024 / 2025, AAAI 2022, Pattern Recognition Journal, WACV 2022 / 2024 / 2025, ACCV 2024, BMVC 2025. Meta-Reviewer: WiCV @ CVPR 2025, WiCV @ CVPR 2024 Workshops Organizer: – WiCV @ CVPR 2025, CVPR 2024 – DEI Social Event @ CVPR 2024 – Challenges/Opportunities for Early Career Researchers (ECRs) in Fast Paced AI Social Event @ CVPR 2024 Teaching Experience: Head TA for 16-824-Visual Learning and Recognition (Spring 2024), TA for 16-720A-Computer Vision (Fall 2025), 16-825-Learning for 3D Vision (Spring 2023)