

Vineet Bhat

Brooklyn, New York

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Education

- New York University** New York, USA
PhD. Electrical and Computer Engineering (GPA: 3.92/4.00) August 2023 – Dec 2027
- Indian Institute of Technology Bombay** Mumbai, India
M.Tech. Artificial Intelligence & Data Science (GPA: 8.88/10.00) May 2022 – June 2023

Work Experience

- NVIDIA** Redmond, WA
Research Intern: Sim2Real Robot Manipulation & VLM Agents for Robotics May 2026 – Current
 - Built **MG-VQA**, an agentic evaluation benchmark for Manipulation-grounded visual question answering
 - Created **1M+** simulated robot trajectories with **16** domain randomization axes; finetuned VLAs & BC models
 - Ongoing: Evaluating **world action models** in fine-grained precision manipulation tasks beyond pick-and-place
- Accenture AI Labs** Bangalore, India
Research Intern: Synthetic Data Generation for Video Gesture Detection October 2021 – April 2022
 - Implemented **mechanical augmentations** improving corpus diversity; projected **10%** increase in accuracy
 - Trained **adversarial** frameworks like MocoGAN & TecoGAN for comparative analysis of **GAN** based models

Key Projects

- Vision-Language Modeling for Real World Understanding** New York, USA
PhD Thesis | Advisors: Prof Farshad Khorrami & Prof Ramesh Karri, NYU Tandon August 2023 – Dec 2027
 - Training large VLMs for perception tasks - object detection, object pose estimation & joint-space robotics. Devised novel algorithms like **mask feature pooling** & **feedback state grounding** to reduce hallucinations
 - Designed an autonomous **LLM-agentic** framework for an industrial robotic arm combining long horizon planning, perception and feedback controlled execution, achieving a success rate of **83%** in novel tasks
 - Utilized optimization strategies such as **bit quantization**, **prompt-tuning** & **low-rank adaptation** and to train and deploy large vision-language models like Qwen-3-VL in commercial GPUs with fast and reliable inference
- Disfluency Correction in Speech to Speech Machine Translation** Mumbai, India
Masters' Thesis | Advisors: Prof Pushpak Bhattacharyya & Prof Preethi Jyothi, IIT Bombay May 2022 – July 2023
 - Designed a novel **BERT based adversarial model** for low resource disfluency and grammar correction, achieving **SOTA** performance in Indian languages like Hindi and Marathi
 - Lead a team of annotators to create the largest publicly released **Hindi, French and German DC Dataset (9K+** parallel sentences). Performed exhaustive data analysis and trained **6+ multilingual Transformer** models

Publications

- BOP-ASK: Object-Interaction Reasoning for Vision-Language Models** - Vineet Bhat, Sungsu Kim, Valts Blukis, Ramesh Karri, Stan Birchfield, et al. **IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2026.**
- MapleGrasp: Mask-guided Feature Pooling for Language-driven Efficient Robotic Grasping** - Vineet Bhat, Naman Patel, et al. **IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) 2026.**
- RESCORE: LLM-Driven Simulation Recovery in Control Systems Research Papers** - Vineet Bhat, Shiqing Wei, Umut Kaypak, Prashanth Krishnamurthy, et al. **IEEE Conference on Decision and Control (CDC) 2026.**
- Grounding LLMs For Robot Task Planning Using Closed-loop State Feedback** - Vineet Bhat, Umut Kaypak, Prashanth Krishnamurthy, Ramesh Karri, Farshad Khorrami. **Journal of Advanced Robotics Research 2025.**
- DISCO: A Large Scale Human Annotated Corpus For Disfluency Correction in Indo-European Languages** - Vineet Bhat, Preethi Jyothi, et al. **Conference on Empirical Methods in Natural Language Processing (EMNLP) 2023.**
- Adversarial training for Low-Resource Disfluency Correction** - Vineet Bhat, P. Jyothi, P. Bhattacharyya. **Annual Meeting of the Association for Computational Linguistics (ACL) 2023.**

Service & Teaching

- Academic Reviewing:** Robotics and Automation Letters (RAL), Conference on Robot Learning (CoRL)
- Teaching Assistant:** Basics of Hardware Design (Fall 2024), Control Design Lab (Spring 2024)