Ram Ramrakhya

ram.ramrakhya@gatech.edu ram81.github.io

Georgia Institute of Technology, Atlanta, GA EDUCATION

> Ph.D. in Computer Science Aug 2023 - Present (Expected May 2026)

Advised by Dhruv Batra and Zsolt Kira

Georgia Institute of Technology, Atlanta, GA

Aug 2021 - May 2023 M.S. in Computer Science

Advised by Dhruv Batra and Abhishek Das

Thesis: "Robots that Navigate to Objects: Simulation, Data, and Models"

Pune Institute of Computer Technology, Pune, India Aug 2015 - May 2018

Bachelor of Engineering in Information Technology

Internships Apple, New York, NY Jan 2025 - Aug 2025

Research Intern with Alex Toshev and Harsh Agrawal

Built a scalable synthetic data generation pipeline to enable SFT and RL training using

multi-modal LLM verifiers for computer use agents (mobile, desktop, and web).

FAIR, Meta, Seattle, WA May 2024 - Aug 2024

Research Intern with Roozbeh Mottaghi

Worked on training vision-language-action agents using reinforcement learning on synthetic rewards to collaborate and chat with humans to complete household tasks.

Allen Institute of AI (AI2), Seattle, WA

May 2023 - Aug 2023

Research Intern with Luca Weihs, Kuo-Hao Zeng, and Aniruddha Kembhavi

Built methods for tidying robots that can reason about object placement based on visual-context and common-sense reasoning in indoor environments.

Mitsubishi Electric and Research Laboratories, Boston, MA

May 2022 - Aug 2022

Resarch Intern with Anoop Cherian

Worked on indoor semantic navigation using scene graph representations for end-to-end learning.

Machine Learning and Perception Lab, GT, Atlanta, GA

April 2020 - July 2021

Research Intern with Dhruv Batra, and Abhishek Das

Built Habitat-Web, infrastructure to collect human demonstrations for embodied tasks at scale.

Used it to scale training of indoor semantic navigation agents using IL and RL finetuning.

AWARDS ICLR Notable Reviewer Award 2025

> Georgia Tech Rising Star Doctoral Student Research Award (2 student from the College) 2023 Georgia Tech CoC Outstanding MS Researcher (1 student from the College) 2022

Runner up at Habitat Navigation Challenge 2021, 2022

[C13] Grounding Multimodal LLMs to Embodied Agents that Ask for Help with Reinforcement

R. Ramrakhya, M. Chang, X. Puig, R. Desai, Z. Kira, R. Mottaghi

Under Review

Publications

[C12] PARTNR: A Benchmark for Planning and Reasoning in Embodied Multi-agent Tasks

M. Chang, G. Chhablani, A. Clegg, M. Cote, R. Desai, M. Hlavac, V. Karashchuk, J. Krantz

R. Mottaghi, P. Parashar, S. Patki, I. Prasad, X. Puig, A. Rai, R. Ramrakhya, D. Tran, J. Truong

J. Turner, E. Undersander, T. Yang

- [C11] HM3D-OVON: A Dataset and Benchmark for Open-Vocabulary Object Goal Navigation N. Yokoyama*, R. Ramrakhya*, A. Das, D. Batra, S. Ha IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2024
- [C10] ReLIC: A recipe for 64k steps In-Context Reinforcement Learning for Embodied AI A. Elawady, G. Chhablani, R. Ramrakhya, K. Yadav, D. Batra, Z. Kira, A. Szot Under Review
- [C9] Seeing the Unseen: Visual Common Sense for Semantic Placement R. Ramrakhya, A. Kembhavi, D. Batra, Z. Kira, K. Zeng*, L. Weihs* IEEE Computer Vision and Patter Recognition (CVPR), 2024
- [C8] GOAT-Bench: A Benchmark for Multi-Modal Lifelong Navigation M. Khanna*, R. Ramrakhya*, G. Chhablani, S. Yenamandra, T. Gervet, M. Chang, Z. Kira, D. Chaplot, D. Batra, R. Mottaghi IEEE Computer Vision and Patter Recognition (CVPR), 2024
- [C7] PIRLNav: Pretraining with Imitation and RL Finetuning for ObjectNav R. Ramrakhya, D. Batra, E. Wijmans, A. Das IEEE Computer Vision and Patter Recognition (CVPR), 2023
- [C6] OVRL-v2: Semantic Navigation without Semantic Mapping or Detection K. Yadav*, A. Majumdar*, R. Ramrakhya, A. Baevski, Z. Kira, O. Makysmets, D. Batra arXiv preprint arXiv:2303.07798, 2023
- [C5] Curriculum Learning via Task Selection for Embodied Navigation R. Ramrakhya, D. Batra, A. Kembhavi, L. Weihs Embodied AI Workshop, CVPR 2023, 2023
- [C4] Offline Visual Representation Learning for Embodied Navigation
 K. Yadav, R. Ramrakhya, A. Majumdar, V. Berges, S. Kuhar, D. Batra, A. Baevski, O. Makysmets
 Reincarnating Reinforcement Learning Workshop, ICLR 2023
- [C3] Habitat-Matterport 3D Semantics Dataset
 K. Yadav*, R, Ramrakhya*, S. Ramakrishnan*, T. Gervet, J. Turner, A. Gokaslan, N. Maestre,
 A. Chang, D. Batra, M. Savva, A. Clegg, D. Chaplot
 IEEE Computer Vision and Patter Recognition (CVPR), 2023
- [C2] Habitat-Web: Learning Embodied Object-Search Strategies from Human Demonstrations at Scale
 R. Ramrakhya, E. Undersander, D. Batra, A. Das
 IEEE Computer Vision and Patter Recognition (CVPR), 2022
- [C1] Fabrik: An Online Collaborative Neural Network Editor
 U. Garg, V. Prabhu, D. Yadav, R. Ramrakhya, H. Agarwal, D. Batra
 Systems for ML Workshop 2019

Invited Habitat-Web: Embodied Object-Search Strategies from Human Demonstrats at Scale

Talks Overlooked Aspects of IL Workshop at RSS June 2022

Work

Glance, Bangalore, KA

Jun 2018 - Jul 2021

EXPERIENCE

Software Development Engineer 2

- Built a content creation platform from scratch, built content extraction from web using heuristic based crawlers, and used image captioning models to automated content filtering at scale. The tool helps streamline creation of $\sim 10,000$ glance stories and saves ~ 150 hours of manual effort by each content designer monthly.
- Worked on optimizing large-scale data pipelines and content serving infrastructure, that serves 150 million users and ingests 10TB data every day to save ~ 20 k\$ in monthly infrastructure cost.

CloudCV, Atlanta, GA

Jan 2021 - Jul 2022

Open Source Organization Lead

• Led a team of 15+ collaborators to work on EvalAI, an open-source platform to create and participate in AI challenges. Collaborated closely with 30+ organizations including Meta, Google, Amazon, etc to host 200+ AI challenges for top tier AI conferences.

OPEN SOURCE

Eval.AI [github.com/Cloud-CV/EvalAI]

2020-2022

Projects

• Platform to create, collaborate and participate in the AI Challenges organized around the globe.

Fabrik [github.com/Cloud-CV/Fabrik]

2018-2020

• Collaborative platform to build, visualize and train deep learning models via a simple drag-and-drop interface.

Professional

Workshop Organization

5^{th} EmbodiedAI Workshop at CVPR	2024
Vision and Language Algorithmic Reasoning Workshop at ICCV	2023

Challenge Organization

HomeRobot: Open Vocabulary Mobile Manipulation (OVMM) Challenge at NeurIPS	2023
Habitat Navigation Challenge 2023 at Embodied AI Workshop, CVPR	2023
Habitat Navigation Challenge 2023 at Embodied AI Workshop, CVPR	2022

Reviewing

International Conference on Machine Learning (ICML)	2024
International Conference on Learning Representations (ICLR)	$2023,\ 2025$
Neural Information Processing Systems (NeurIPS)	2023, 2024
IEEE Robotics and Automation Letters (RA-L)	2023

Advising

Gunjan Chhablani (MS Georgia Tech \rightarrow Waymo); Publication [C4]	2023
Archana Kutumbaka (MS Georgia Tech \rightarrow Adobe)	2023
Google Summer of Code (7 mentors)	2021
Google Summer of Code (9 undergraduate students)	2019-2021
Google Code-In (15 high-school students)	2018-2019