Ram Ramrakhya

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

Education

Georgia Institute of Technology, Atlanta, GA
Ph.D. in Computer Science — Aug 2023 - Present
Advised by Dhruv Batra and Zsolt Kira

Georgia Institute of Technology, Atlanta, GA
M.S. in Computer Science — May 2023
Advised by Dhruv Batra and Abhishek Das

Pune Institute of Computer Technology, Pune, India — May 2018
Bachelor of Engineering in Information Technology

Internships

AI2, Seattle, WA — May 2023 - Aug 2023
Research Intern with Luca Weihs, Kuo-Hao Zheng, and Aniruddha Kembhavi
Exploring visual common sense reasoning for housekeeping robots.

Mitsubishi Electric and Research Laboratories, Boston, MA — May - 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

Georgia Tech CoC Outstanding MS Researcher (1 student from College of Computing) — 2022
Runner up at Habitat Navigation Challenge — 2021, 2022

Conference Publications

[C3] **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

[C2] **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

[C1] **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

Workshop Papers

[W4] **Curriculum Learning via Task Selection for Embodied Navigation**
R. Ramrakhya, D. Batra, A. Kembhavi, L. Weihs
Embodied AI Workshop, CVPR 2023

[W3] **PIRLNav: Pretraining with Imitation and RL Finetuning for ObjectNav**
R. Ramrakhya, D. Batra, E. Wijmans, A. Das
Reincarnating Reinforcement Learning Workshop, ICLR 2023

[W2] **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

[W1] **Habitat-Web: Learning Embodied Object-Search Strategies from Human Demonstrations at Scale**
R. Ramrakhya, E. Undersander, D. Batra, A. Das
Embodied AI Workshop (CVPR 2022), Overlooked Aspects of IL Workshop (RSS 2022)

Preprint

[P1] **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

Invited Talks

Habitat-Web: Embodied Object-Search Strategies from Human Demonstrats at Scale
Overlooked Aspects of IL Workshop at RSS June 2022

Work Experience

Glance, Bangalore, KA Jun 2018 - Jul 2021
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 $\sim$**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 $\sim$**20k**$ 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.

Side Projects

Eval.AI [github.com/Cloud-CV/EvalAI] 2020-2022
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
Vision and Language Algorithmic Reasoning Workshop at ICCV 20223

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 Learning Representations (ICLR) 2023
Neural Information Processing Systems (NeurIPS) 2023
IEEE Robotics and Automation Letters (RA-L) 2023

Advising
Gunjan Chhablani (MS Georgia Tech) 2023