Ram Ramrakhya

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EDUCATION

- **Georgia Institute of Technology** *August 2021 - Present*
  Masters in Computer Science, Expected Graduation: May 2023
- **Pune Institute of Computer Technology, Pune** *July 2015 - June 2018*
  Bachelors of Engineering, Information Technology GPA: 4.00

PUBLICATIONS

- **Fabrik: An online collaborative neural network editor** October 2019
  ACM SOSP'19, Systems for ML workshop
  Utsav Garg, Viraj Prabhu, **Ram Ramrakhya**, Deshraj Yadav, Dhruv Batra, Harsh Agarwal

EXPERIENCE

- **Georgia Institute of Technology** August 2021 - Present
  Graduate Research Assistant advised by Prof. Dhruv Batra

· My research focuses on building Embodied AI agents that can see, reason, and interact with the world reasonably. Currently, I am working on building embodied agents that can learn to solve tasks that require visual exploration by imitating human like behavior.

- **Machine Learning and Perception Lab, Georgia Tech** April 2020 - July 2021
  Research Intern advised by Prof. Dhruv Batra and Prof. Devi Parikh

· **Habitat-on-Web:** This work focuses on training embodied agents for tasks that require visual exploration. We ask the question - how well does behavior cloning work for such tasks. Towards this we build a scalable web-based simulation infrastructure collect task demonstrations. We use the collected data to train policies via behavior cloning, and investigate how these policies compare to their RL-trained counterparts.

- **InMobi** June 2018 - August 2020
  Software Development Engineer 2

· Worked at the intersection of Machine Learning and Software Engineering. Implemented incremental caching layer to optimize latency, data pipelines for processing large scale analytics data, and content recommendation algorithm and infrastructure to serve content in real time.

- **Google Summer of Code** April 2018 - August 2019
  Student Developer, Organisation Mentor, Organisation Administrator

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  - **2018**: Selected as GSoC student to build Fabrik, an online collaborative platform to build, visualize and train deep learning models via a simple drag-and-drop interface.
  - **2019**: Mentored students during GSOC - one of the most prestigious open source program sponsored by Google - for CloudCV.

- **Google Code In** October 2018 - January 2019
  Organisation Mentor

· Mentored more than 10 students during GCI - one of the most prestigious programming competition to introduce pre-university students to open source community sponsored by Google - to contribute to CloudCV.

- **NVIDIA** July 2017 - May 2018
  System Software Engineering Intern
  · Worked on building a platform to design automated test suites for NVIDIAs video encoders and decoders.

FELLOWSHIP AND AWARDS

- Travel scholarship for **Google Code-In Grand Prize Summit 2018**
- University **Rank 1** in 3rd Academic Year, University of Pune
- Institute **Rank 2** in 2nd & 4th Academic Year, Pune Institute of Computer Technology

SELECTED PROJECTS

- **Habitat-on-Web**

  A web-based simulation infrastructure to run Habitat, a physics-enabled 3D simulator, in web browser to collect human demonstrations for EmbodiedAI tasks like ObjectNav and Pick and Place at scale. We use the collected human demonstrations to train policies via behavior cloning and inverse reinforcement learning, and investigate how these policies compare to their RL-trained counterparts.

- **EvalAI** [**evalai.cloudcv.org**]
  · Open source platform to create, collaborate and participate in the AI Challenges organized around the globe; **70+ open source contributors; 1700+ issues & pull requests; 450+ stars; 200+ forks**

- **Fabrik: An Online Collaborative Neural Network Editor**
  · Online collaborative platform to build, visualize and train deep learning models via a simple drag-and-drop interface; **30+ open source contributors; 850+ stars; 170+ forks**

- **Conditional Variational AutoEncoder GAN**
  · A simple extension of VAEGANs that employs label conditioning to generate high quality images. By adding an auxiliary classifier to the discriminator of a VAEGAN, it also predicts probability distribution over the class labels.

- **iMet Collection FGVC6 - ICCV'19 Challenge**
  · Built a fine grained visual categorizer for multi-label classification of artworks, 1000+ categories, from metropolitan museum of art using Squeeze-and-Excitation Networks with Focal loss to handle high class imbalance.

ACHIEVEMENTS

- **Runners-up** of the **Habitat** challenge organized at **CVPR'21**
- **Ranked 8th/914** in **Kaggle's** Abstraction and Reasoning Challenge
- **Ranked 10th/1571** in Kaggle's **Google** Quest QA Labelling Challenge

PROGRAMMING SKILLS

- **Languages:** Python, C, C++, Java, Scala, Ruby, Javascript
- **Frameworks:** PyTorch, Tensorflow, Keras, Caffe, Django, Flask, PyTest, Celery
- **Distributed Systems:** Spark, Hive, Hadoop
- **DevOps:** Docker, Kubernetes, Amazon Web Services, Microsoft Azure Cloud