Ananye Agarwal

Curriculum Vitae

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Education

2021-current **Carnegie Mellon University**
Ph.D. candidate in Machine Learning
Advisor: Deepak Pathak

2017-2021 **Indian Institute of Technology, Delhi**
B.Tech. in Computer Science and Engineering
Major GPA: 10 / 10 (ranked 1st in class) Cumulative GPA: 9.978 / 10
President's gold medalist

Honors and Awards

2017 **Gold Medal** at the International Physics Olympiad (IPhO)
2017 **Ranked 3rd** in JEE-Advanced out of 180K candidates
2021 **President's Gold Medal** for best academic performance at IIT Delhi
2022 **Best Systems Paper Award** at Conference of Robot Learning '22
2022 **Best Paper Award** at CVPR '22 Multimodal Learning Workshop
2017 **Ranked 3rd** in JEE-Main out of 1.2 million candidates

Publications

[9] **SAPG: Split and Aggregate Policy Gradients**
International Conference on Machine Learning (ICML) 2024
Oral
Jayesh Singla*, ***Ananye Agarwal****, Deepak Pathak

[8] **Demonstrating Learning from Humans on Open-Source Dexterous Robot Hands**
Robotic Science and Systems (RSS) 2024
Kenneth Shaw, ***Ananye Agarwal***, Shikhar Bahl, Mohan Kumar Srirama, Alexandre Kirchmeyer, Aditya Kannan, Aravind Sivakumar, Deepak Pathak

[7] **Legolas: Deep Leg-Inertial Odometry**
Conference of Robot Learning (CoRL) 2024
Justin Wasserman, ***Ananye Agarwal***, Rishabh Jangir, Girish Chowdhary, Deepak Pathak, Abhinav Gupta

[7] **SPIN: Simultaneous Perception Interaction and Navigation**
CVPR 2024
Shagun Uppal, ***Ananye Agarwal***, Haoyu Xiong, Kenneth Shaw

[7] **Extreme Parkour with Legged Robots**
International Conference on Robotics and Automation (ICRA) 2024
Xuxin Cheng* Kexin Shi* ***Ananye Agarwal***, Deepak Pathak

[6] **Dexterous Functional Grasping**
Conference of Robot Learning (CoRL) 2023
Ananye Agarwal, Shagun Uppal, Kenneth Shaw, Deepak Pathak

[5] **LEAP Hand: Low-Cost, Efficient, and Anthropomorphic Hand for Robot Learning**
Robotics Science and Systems (RSS) 2023
Kenneth Shaw, ***Ananye Agarwal***, Deepak Pathak

[4] **Legged Locomotion in Challenging Terrains using Egocentric Vision**
Conference of Robot Learning (CoRL) 2022
Best Systems Paper Award
Ananye Agarwal*, Ashish Kumar*, Jitendra Malik†, Deepak Pathak†

[3] **Coupling Vision and Proprioception for Navigation of Legged Robots**
Conference on Computer Vision and Pattern Recognition (CVPR) 2022
Best Paper Award at Multimodal Learning Workshop
Zipeng Fu*, Ashish Kumar*, ***Ananye Agarwal***, Haozhi Qi, Jitendra Malik, Deepak Pathak

[2] **SiameseXML: Siamese Networks meet Extreme Classifiers with 100M Labels**
International Conference of Machine Learning (ICML) 2021
Kunal Dahiya, ***Ananye Agarwal***, Deepak Saini, Gururaj K, Jian Jiao, Amit Singh, Sumeet Agarwal, Purushottam Kar, Manik Varma

[1] **End-to-End Neuro-Symbolic Architecture for Image-to-Image Reasoning Tasks**
Ananye Agarwal, Pradeep Shenoy, Mausam

Industry Experience

Aug'23-Present **Skild AI**, *Pittsburgh, USA*
Founding researcher

May'20-Jun'20 **Samsung Research**, *Seoul, Korea (remote)*
Research Intern

Jun'20-Jul'20 **Uber Resarch**
Research Internship

May'19-Aug'19 **Microsoft Research**, *Bangalore, India*
Research Intern

Service

2024 **CMU MLD PhD admissions committee**
Member

2022 **CoRL Workshop Organizer**
Sim-to-Real Robot Learning: Locomotion and Beyond

2021-2023 **Reviewer**
NeurIPS 2024, CoRL 2024, NeurIPS 2023, ICCV 2023, CVPR 2023

2023 **CMU MLD MS admissions committee**
Member

Media Coverage

Extreme Parkour with Legged Robots

- *Video Friday* (IEEE Spectrum)
- *Small Robotic Dog Takes Giant Parkour Leaps* (CMU)
- *Robot dogs can already do this.* (Weixin)
- *CMU robot dog goes downstairs upside down! Released and open-source immediately.* (Weixin)
- *Extreme Parkour with Legged Robots* (Hacker News)

Legged Locomotion in Challenging Terrain using Egocentric Vision

- *Watch this robot dog scramble over tricky terrain just by using its camera* (MIT Tech Review)
- *This robotic dog can walk over just about any terrain* (TechCrunch)
- *Video Friday: Little Robot, Big Stairs* (IEEE Spectrum)
- *CMU Researchers Develop Low-Cost Robot Dog That Can Climb Stairs and Rocks* (TechEBlog)
- *Taking a look at a new advancement in AI* (CBS Pittsburgh Live TV)
- *Low-Cost Robot Navigates Nearly Any Obstacle* (Unite.AI)
- *Budget robots inspired by animals a step forward for humans* (Technology)
- *Researchers build a four-legged robot that can climb stairs, hills* (Techcircle)
- honeybee life spans, little robots, near-sightedness genes, and ear pod hearing aids (*Cosmos*)

Invited Talks

Jun 2024 **ELLIS Workshop on 3D Computer Vision and Robotics**
Legged locomotion and extreme parkour using egocentric vision

Jan 2024 **Guest Lecture at UMich EECS 598-010: Action and Perception**
Building robots that adapt

Jan 2024 **Guest Lecture at UC Irvine MAE195: Introduction to Robot Motion Planning & Navigation**
General-purpose robotics using large-scale simulation