

## Education

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|---|---|
| <b>Massachusetts Institute of Technology</b><br>Ph.D. in Electrical Engineering and Computer Science<br><b>MIT Presidential fellowship</b>        | September 2019 - August 2024<br>GPA: 5.00/5.00    |
| <b>Massachusetts Institute of Technology</b><br>S.M. in Electrical Engineering and Computer Science<br><b>MIT Presidential fellowship</b>         | September 2017 - September 2019<br>GPA: 5.00/5.00 |
| <b>University of California, Berkeley</b><br>B.S. in Electrical Engineering and Computer Science<br><b>Graduated with Highest Honors (top 3%)</b> | August 2013 - May 2017<br>GPA: 3.95/4.00          |

## Experience

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| <b>Google DeepMind</b><br>(Research Scientist) <ul style="list-style-type: none"><li>Working on personalization and reasoning in Project Astra.</li><li>Helped build Astra Memory in trusted testers launch of Project Astra.</li></ul>  | August 2024 - Present           |
| <b>Improbable AI Lab</b><br>(Advisor: Pulkit Agarwal) <ul style="list-style-type: none"><li>Flexibly composing foundation models, each pretrained on different modality of internet data (such as vision-language model, video diffusion and action model), for decision-making in embodied agents</li><li>Building deep RL algorithms that leverages past offline interactions for faster online learning</li></ul>   | September 2019 - August 2024    |
| <b>Meta FAIR Research Internship</b><br>(Advisor: Aravind Rajeswaran) <ul style="list-style-type: none"><li>Curated an evaluation dataset for Embodied Question Answering consisting of high-quality human generated questions representative of real-world use cases for Embodied AI agents</li><li>The evaluation dataset is accompanied by strong baselines demonstrating the capabilities of publicly available VLMs and fine-tuned multi-frame VLMs, and highlighting the gap between state-of-the-art VLMs (GPT4V) and humans.</li></ul> | June 2023 - January 2024        |
| <b>Google Brain Research Internship</b><br>(Advisors: Ofir Nachum and Sergey Levine) <ul style="list-style-type: none"><li>Worked on leveraging (unlabelled) offline data to extract skills which allows for improved offline reinforcement learning, online reinforcement learning and few-shot imitation learning.</li></ul>   | June 2020 - August 2020         |
| <b>Learning and Intelligent Systems Group</b><br>(Advisors: Leslie Kaelbling and Josh Tenenbaum) <ul style="list-style-type: none"><li>Worked on leveraging physics engine for dynamics model learning and control</li><li>Worked on curiosity driven exploration for reinforcement learning in environment with sparse rewards</li></ul>  | September 2017 - September 2019 |
| <b>Madry Lab</b> (with Aleksander Madry) <ul style="list-style-type: none"><li>Worked on robust style transfer for images and videos</li></ul>   | March 2019 - September 2019     |
| <b>Berkeley Artificial Intelligence Research Lab</b><br>(Advisors: Pieter Abbeel and Sergey Levine) <ul style="list-style-type: none"><li>Worked on deep learning for state estimation</li><li>Developed model-based sample efficient reinforcement learning algorithm</li></ul>   | October 2014 - May 2017         |

## Publications

**OpenEQA: Embodied Question Answering in the Era of Foundation Models**  
Arjun Majumdar\*, **Anurag Ajay\***, Xiaohan Zhang\*, Pranav Putta, Sriram Yenamandra, Mikael Henaff, Sneha Silwal, Paul Mcvay, Oleksandr Maksymets, Sergio Arnaud, Karmesh Yadav, Qiyang Li, Ben Newman, Mohit Sharma, Vincent Berges, Shiqi Zhang, Pulkit Agrawal, Yonatan Bisk, Dhruv Batra, Mrinal Kalakrishnan, Franziska Meier, Chris Paxton, Sasha Sax, Aravind Rajeswaran.  
IEEE / CVF Computer Vision and Pattern Recognition Conference (CVPR), Seattle, USA, 2024.

### **Compositional Foundation Models for Hierarchical Planning**

**Anurag Ajay\***, Seungwook Han\*, Yilun Du\*, Shuang Li, Abhi Gupta, Tommi Jaakkola, Joshua B. Tenenbaum, Leslie Kaelbling, Akash Srivastava, Pulkit Agrawal.

Neural Information Processing Systems (NeurIPS), New Orleans, USA, December 2023.

### **Statistical Learning under Heterogenous Distribution Shift**

Max Simchowitz\*, **Anurag Ajay\***, Pulkit Agrawal, Akshay Krishnamurthy.

International Conference on Machine Learning (ICML), Hawaii, USA, July 2023.

### **Parallel-Q-Learning: Scaling Off-policy Reinforcement Learning**

Zechu Li, Tao Chen, Zhang-Wei Hong, **Anurag Ajay**, Pulkit Agrawal.

International Conference on Machine Learning (ICML), Hawaii, USA, July 2023.

### **Is Conditional Generative Modeling all you need for Decision Making?**

**Anurag Ajay\***, Yilun Du\*, Abhi Gupta\*, Josh Tenenbaum, Tommi Jaakkola, Pulkit Agrawal.

International Conference on Learning Representations (ICLR), Kigali, Rwanda, May 2023.

### **Oral Talk**

### **Distributionally Adaptive Meta Reinforcement Learning**

**Anurag Ajay\***, Abhishek Gupta\*, Dibya Ghosh, Sergey Levine, Pulkit Agrawal.

Neural Information Processing Systems (NeurIPS), New Orleans, USA, December 2022.

### **Offline RL Policies should be trained to be Adaptive**

Dibya Ghosh, **Anurag Ajay**, Pulkit Agrawal, Sergey Levine.

International Conference on Machine Learning (ICML), Baltimore, USA, July 2022.

### **Oral Talk**

### **Overcoming The Spectral Bias of Neural Value Approximation**

Ge Yang\*, **Anurag Ajay\***, Pulkit Agrawal.

International Conference on Learning Representations (ICLR), Virtual, May 2022.

### **Understanding the Generalization Gap in Visual Reinforcement Learning**

**Anurag Ajay\***, Ge Yang\*, Ofir Nachum, Pulkit Agrawal.

ICML Reinforcement Learning for Real Life Workshop, July 2021.

### **OPAL: Offline Primitive Discovery for Accelerating Offline Reinforcement Learning**

**Anurag Ajay**, Aviral Kumar, Pulkit Agrawal, Sergey Levine, Ofir Nachum.

International Conference on Learning Representations (ICLR), Vienna, Austria, May 2021.

### **Learning Action Priors for Visuomotor transfer**

**Anurag Ajay**, Pulkit Agrawal.

ICML Inductive biases, invariances and generalization in RL workshop, July 2020.

### **Long-Horizon Prediction and Uncertainty Propagation with Residual Point Contact Learners**

Nima Fazeli, **Anurag Ajay**, Alberto Rodriguez.

IEEE International Conference on Robotics and Automation (ICRA), Paris, France, May 2020.

### **Learning Skill Hierarchies from Predicate Descriptions and Self-Supervision**

Tom Silver\*, Rohan Chitnis\*, **Anurag Ajay**, Josh Tenenbaum, Leslie Pack Kaelbling.

AAAI Workshop on Generalization in Planning (GenPlan), 2020.

### **Learning to Navigate Endoscopic Capsule Robots**

Mehmet Turan, Yasin Almalioglu, Hunter B Gilbert, Faisal Mahmood, Nicholas J Durr, Helder Araujo, Alp Eren Sar, **Anurag Ajay**, Metin Sitti.

Robotics and Automation Letters (RA-L), 2019.

### **Combining Physical Simulators and Object-Based Networks for Control**

**Anurag Ajay**, Maria Bauza, Jiajun Wu, Nima Fazeli, Joshua B. Tenenbaum, Alberto Rodriguez, Leslie P. Kaelbling.

IEEE International Conference on Robotics and Automation (ICRA), Montreal, Canada, May 2019.

### **Augmenting Physical Simulators with Stochastic Neural Networks: Case Study of Planar Pushing and Bouncing**

**Anurag Ajay**, Jiajun Wu, Nima Fazeli, Maria Bauza, Leslie P. Kaelbling, Joshua B. Tenenbaum, Alberto Rodriguez.

IEEE International Conference on Intelligent Robots and Systems (IROS), Madrid, Spain, October 2018.

**Best Paper for Cognitive Robotics**

**Reset-Free Guided Policy Search: Efficient Deep Reinforcement Learning with Stochastic Initial States**

**Anurag Ajay\***, William Montgomery\*, Chelsea Finn, Pieter Abbeel, Sergey Levine. IEEE International Conference on Robotics and Automation (ICRA), Singapore, May 2017.

**Backprop KF: Learning Discriminative Deterministic State Estimators**

Tuomas Haarnoja, **Anurag Ajay**, Sergey Levine, Pieter Abbeel.

Neural Information Processing Systems (NIPS), Barcelona, Spain, December 2016.