

# Shreyas Chaudhari

University of Massachusetts Amherst

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## Education

### University of Massachusetts Amherst

*PhD in Computer Science*

Advisors: Profs. Bruno da Silva and Philip S. Thomas

GPA: 4.00/4.00

Sept '21 - Present

### Carnegie Mellon University

*Master of Science in Electrical and Computer Engineering*

GPA: 3.96/4.00

Aug '19 - Dec '20

### Indian Institute of Technology Madras

*Bachelor of Technology in Electrical Engineering, Minor: Machine Learning*

Thesis: Second-Order Methods for Policy Search in Reinforcement Learning

CGPA: 8.89/10.00

Jul '15 - May '19

## Professional Experience

### Adobe Research

*Research Scientist Intern, Real-time Algorithms Lab*

• Developed distributional off-policy estimators for slate recommenders, allowing for a comprehensive offline analysis of recommendation strategies.

San Jose, CA

May - August '22

### Uber

*Software Engineer I, Search Quality Team*

• Developed and migrated a tree-based model for ranking the places suggested by the autocomplete services in the Uber app

• Productionized a co-ranking model that aggregated results from multiple providers and ranked them to provide a consolidated output

San Francisco, CA

March - August '21

### Uber Advanced Technologies Group

*Software Engineering Intern, Perception/Prediction Team*

• Derived loss functions for confidence-calibrated neural network predictions for image classification and object detection

• Shifted from two-step post-processing calibration methods, benchmarking one-stage object detectors (FAIR's RetinaNet)

Pittsburgh, PA

June - August '20

### Goldman Sachs

*Securities Strategist Intern, Franchise Analytics Strategy & Technology team*

• Analyzed the trade data for European markets post MiFID II regulation, gauging the monetary value of the dataset

• Conducted trade volume and market share driven analysis indicating ~40% increase in market coverage by the data

Bengaluru, India

May - July '18

### Tata Institute of Fundamental Research

*Junior Research Fellow*

• Researched a queuing problem over an energy-constrained communication channel, optimizing the trade-off between delay and information loss

Mumbai, India

May - July '17

## Publications and Reports

\* - indicates equal contribution

### Conferences and Journals

#### ○ [Distributional Off-Policy Evaluation for Slate Recommendations](#)

Shreyas Chaudhari, Nikos Vlassis, Georgios Theodorou, David Arbour

Conference on Artificial Intelligence (AAAI) 2024

#### ○ [From Past to Future: Rethinking Eligibility Traces](#)

Dhawal Gupta, Scott Jordan, Shreyas Chaudhari, Bo Liu, Philip S. Thomas, Bruno Castro da Silva

Conference on Artificial Intelligence (AAAI) 2024

#### ○ [Learning Models and Evaluating Policies with Offline Off-Policy Data under Partial Observability](#)

Shreyas Chaudhari, Philip S. Thomas, Bruno Castro da Silva

Workshop: Workshop on Adaptive Experimental Design and Active Learning in the Real World at NeurIPS 2023

#### ○ [Off-Dynamics Reinforcement Learning: Training for Transfer with Domain Classifiers](#)

Ben Eysenbach\*, Shreyas Chaudhari\*, Swapnil Asawa\*, Ruslan Salakhutdinov, Sergey Levine

Conference: International Conference on Learning Representations (ICLR) 2021

Workshop: Spotlight Presentation at Challenges of Real-World RL workshop at NeurIPS 2020

#### ○ [Multi-Armed Bandits with Correlated Arms](#)

Samarth Gupta, Shreyas Chaudhari, Gauri Joshi, Osman Yağan

Journal: IEEE Transactions on Information Theory 2021

Workshop: Theoretical Foundations of RL workshop at ICML 2020

- *A Unified Approach to Translate Classical Bandit Algorithms to the Structured Bandit Setting*  
Samarth Gupta, **Shreyas Chaudhari**, SSubhojyoti Mukherjee, Gauri Joshi, Osman Yağın  
Journal: *IEEE Journal on Selected Areas of Information Theory: Estimation and Inference 2021*  
Conference: *IEEE ICASSP 2021*
- *Energy-Delay-Distortion Problem*  
Rahul Vaze, **Shreyas Chaudhari**, Akshat Choube, Nitin Aggarwal  
Conference: *National Conference on Communications 2018*

## Relevant Research and Project Reports

- ◇ *DAMuNLP: Distance-Aware Metric for Uncertainty estimation in NLP*  
E. Cai, S. Chaudhari, J. Lai, X. Wang  
Course: *Advanced Natural Language Processing*
- ◇ *Training objective functions for confidence-calibrated predictions from neural networks*  
S. Chaudhari, G. Meyer  
Internship Report, *Uber Advanced Technologies Group*
- ◇ *Learning Augmentation Policies for Speech Recognition*  
S. Chaudhari, S. Deshmukh, G. Gare, Revanth B.N.  
Course: *Speech Recognition and Understanding*
- ◇ *Off Policy Meta-Reinforcement Learning*  
K. Yadav, S. Chaudhari, V.Pandit, S. Long  
Course: *Probabilistic Graphical Models*
- ◇ *Second-Order Methods for Policy Search in Reinforcement Learning*  
S. Chaudhari, L.A. Prashanth  
Bachelor's thesis, *IIT Madras*
- ◇ *Multi-Hop Question Answering using Graph Convolutional Networks*  
S. Ramnath, S. Chaudhari  
Research project, *IIT Madras*

## Scholastic Achievements

- Awarded the Robin Popplestone Fellowship in Robotics and Artificial Intelligence to pursue research in the area
- Selected for the Danaher Scholarship Program, 2018 by Scholarship America to fund undergraduate education
- AIR 18 in IIT-JEE Mains, 2015; AIR 356 in IIT-JEE Advanced, 2015 - In top 0.02% of 0.15 million students
- Awarded KVPY scholarship (2014) - AIR 118 - by Department of Science and Technology, Government of India
- Qualified for national level of Indian National Astronomy Olympiad (2015 and 2013) - In top 400 across the country
- Qualified for national level of Indian National Junior Science Olympiad (2013) - In top 400 across the country

## Teaching, Mentoring and Service

### Teaching:

- Reasoning Under Uncertainty (COMPSCI 240), *Teaching Assistant* UMass
- Deep Reinforcement Learning and Control (10-703), *Teaching Assistant* CMU
- Introduction to Machine Learning (18-661), *Teaching Assistant* CMU

### Mentoring:

- Honors Thesis Committee Member and mentor for an undergraduate student UMass
- Academic Mentor for three freshmen, Saathi IIT Madras

### Service:

- Reviewer for NeurIPS-2022, 2023, ICML-2022, 2023, AAMAS-2022, AAAI-2021

## Extra-curricular Activities

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|------------|--|
| Sports     | <ul style="list-style-type: none"> <li>◇ Member of the IIT Madras Athletics team: won a bronze medal at the 51<sup>st</sup> Inter IIT Sports Meet</li> <li>◇ Won 13 medals in inter-hostel Athletics competitions; hostel team captain for two years</li> <li>◇ Member of the IIT-Madras team that finished third in the regionals of NASA Space Apps Hackathon challenge</li> </ul> |
| Sci-tech   | <ul style="list-style-type: none"> <li>◇ Part of the hostel team which finished 1<sup>st</sup> in Inter Hostel Technical Meet (TechSoc) 2017 and 3<sup>rd</sup> in 2016</li> <li>◇ Hackathons: AWS Deep Learning Hackathon (runner up), AmEx Big Data Challenge (runner up)</li> <li>◇ Member of the IEEE-Eta Kappa Nu (HKN) society, CMU chapter</li> </ul>                         |
| Leadership | <ul style="list-style-type: none"> <li>◇ Head of the Sponsorship and Public Relations Team for 52<sup>nd</sup> Inter IIT Sports Meet</li> <li>◇ Member of the Sports Organizing Committee at IIT Madras</li> </ul>   |