Adhyyan Narang

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Education

University of Washington
PhD., Electrical and Computer Engineering (September 2020 - Present)
Advisors: Prof. Maryam Fazel, Prof. Lillian Ratliff
GPA: 4.0

University of California, Berkeley
M.S., Electrical Engineering and Computer Science, 2020
Advisor: Prof. Anant Sahai
Thesis Topic: Overparameterized classification problems: How many support vectors do I have, and do large margins bode well for generalization?
GPA: 4.0

University of California, Berkeley
B.S., Electrical Engineering and Computer Science, 2019.
Minor in Theater, Dance & Performance Studies, 2019.
Overall GPA: 3.95, EECS GPA: 3.97

Dhirubhai Ambani International School
IB Diploma, 2015.
42/42 in the IB Final Exam, ranked in top 1% of all candidates

Research Experience

University of Washington
Research Assistant (Sep 2020 – Present)
- Advised by Professors Lillian Ratliff and Maryam Fazel. Collaborate closely with Prof. Dmitriy Drusvyatskiy and Prof. Samet Oymak
- Formulated a new class of machine-learning games called decision-dependent risk minimization games.
- Using optimization and control theory, designed and analyzed convergence of novel algorithms for these games.
- Studied generalization properties of meta-learning for overparameterized models.

BLISS Lab, UC Berkeley
Research Assistant (May 2019 – Aug 2020)
- Advised by Prof. Anant Sahai.
- Compared generalization in overparameterized models between regression and classification tasks
- Demonstrated a novel estimation-centric explanation for adversarial examples in an overparameterized lifted-linear model.

Professional Experience

Amazon Robotics
Research Scientist Intern (June 2023 - Sept 2023)
- Worked on the "Stow" robot, which packs items into shelves.
- Used contextual bandits to decide where each item should be stowed so that the shelves remain organized.
- Increased the forecasted percent of "organized" stows from 0.55 to 0.7.

Amazon Customer Service ML
Research Scientist Intern (June 2022 - Sept 2022)
- Used inverse reinforcement learning to train language models to answer customer queries.

UberEats
Machine Learning Engineering Intern (May 2018 - Aug 2018)
- Built a stochastic optimization algorithm, which offers customized promotions. Used random forests to predict impact of promotion on user.
- Released over 20000 promotions in Santiago and Mexico City.

Veritas Technologies
Data Engineering Intern (Jun 2017 - Aug 2017)
Using Apache Spark, built a service that automates the Machine Learning pipeline; reduced incubation time by 30-40% of future projects.

Publications

(*): Equal Contribution

Marcus Williams*, Micah Carroll*, **Adhyyan Narang**, Constantin Weisser Brendan Murphy "On targeted manipulation and deception when optimizing LLMs for user feedback" *ICLR, 2025*

Adhyyan Narang, Andrew Wagenmaker, Lillian Ratliff, Kevin Jamieson "Sample complexity reduction via policy difference estimation in Tabular RL" *NeurIPS 2024 (Spotlight)*

Adhyyan Narang, Omid Sadeghi, Lillian Ratliff, Maryam Fazel, Jeff Bilmes "Efficient Interactive Maximization of BP and Weakly Submodular Objectives" *UAI 2024*

Adhyyan Narang, Evan Faulkner, Dmitriy Drusvyatskiy, Maryam Fazel, Lillian Ratliff "Multiplayer performative prediction: Learning with decision dependent data" *JMLR 2023*

Adhyyan Narang, Evan Faulkner, Dmitriy Drusvyatskiy, Maryam Fazel, Lillian Ratliff "Learning in Stochastic Monotone Games with decision-dependent data" *AISTATS 2022*

Yue Sun, **Adhyyan Narang**, Ibrahim Gulluk, Samet Oymak, Maryam Fazel "Towards sample-efficient overparameterized meta-learning". *NeurIPS, 2021.*

Tanner Fiez, Lillian J. Ratliff, Eric Mazumdar, Evan Faulkner, **Adhyyan Narang**. "Global Convergence to Local Minmax Equilibrium in Classes of Nonconvex Zero-Sum Games". *Neurips 2021.*

Adhyyan Narang, Vidya Muthukumar, Anant Sahai "A signal-processing perspective on classification and adversarial examples in the overparameterized linear model" *Short version in ICML Overparameterization Workshop, 2021*

Vidya Muthukumar*, **Adhyyan Narang***, Vignesh Subramanian*, Misha Belkin, Daniel Hsu, Anant Sahai "Classification vs regression in overparameterized regimes: Does the loss function matter?" *JMLR, 2021*

Teaching

TA, University of Washington
Electrical Engineering 16A (March - June 2022)
- Designed midterm and final exam, graded homeworks and led office hours.
- Taught sections (1/week of 1.5 hour) for $\approx$ 30 students.

Head Content TA, UC Berkeley
Electrical Engineering 16A (Jan - May 2020)
- Led the design of homework assignments and final examination for a class of 700 students.
- Taught sections (2/week of 1 hour each) for $\approx$ 30 students.

Coursework

(*): Self-study/Audit

Optimization: Convex Optimization, Optimization Algorithms, Game Theory, Submodular Optimization
Machine Learning: Machine Learning, Deep Learning, Multi-armed bandits, Signal Processing*
Probability and Statistics: Stochastic processes, Information Theory, Statistical Inference, Statistical Learning Theory*
Mathematics: Abstract Algebra, Real Analysis, Metric Spaces, Measure Theory & Lebesgue Integration
Computer Science: Algorithms, Randomized Algorithms

Awards & Honors

Amazon Science Hub Fellow 2023-2024
B.S. with High Distinction
Dean's List for all semesters at UC Berkeley
Phi Beta Kappa
Tau Beta Pi

Skills

Programming Languages: Python, Java, GoLang, C, Scala, Matlab