Adhyyan Narang

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Education

University of California, Berkeley
M.S., Electrical Engineering and Computer Science (May 2020 Graduation)
Advisor: Prof. Anant Sahai
Coursework:
- EE 227B Convex Optimization (Ongoing)
- EE 229 Information Theory (Ongoing)

University of California, Berkeley
B.S., Electrical Engineering and Computer Science (High Distinction), 2019.
Cumulative GPA: 3.96
Graduate Coursework:
- EE 290S Sequential decision making under uncertainty (A)
- CS 189/289A Introduction to Machine Learning (A)
- CS 127/227AT Optimization Models in Engineering (A)
- CS 182/282A Deep Learning (A)

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

Research Experience

BLISS Lab, UC Berkeley
Research Assistant, Advised by Prof.Sahai (May 2019 – Present)
- Experimentally and theoretically demonstrated that unless there is an appropriate prior, the generalizability of interpolative (zero train error) solutions typically deteriorates as the number of features, $d \to \infty$.
- Proved that min-L2 regression, logistic regression and support vector machine algorithms are likely to learn the same classifiers in overparameterized settings.

BAIR Lab, UC Berkeley
Research Assistant, Advised by Prof. El Ghaoui (May 2019 - Present)
- Created complexity measures for neural networks that are predictive of their performance in adversarial environments.
- Using techniques of convex optimization (Relaxations, Schur complements, S-lemma), solved the problems of creating data poisoning attacks for linear and logistic regression.

UC Berkeley EECS
Research Apprentice, Advised by Prof. Dawn Song (Aug 2018 - May 2019)
Proved generalization error bounds as a function of the stability of the learning algorithm in adversarial environments.

Professional Experience

UberEats
Machine Learning Engineering Intern (May 2018 - August 2018)
- Created a microservice in GoLang that automatically offers promotional offers to users.
- To decide which users to offer promotions to, framed a constrained optimization problem: maximize profits without exceeding the budget.
- To approximate a solution, used Machine Learning (random forests) to predict the effect of the promotion on the short-term and long-term consumption of each user.

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

Publications

(In preparation) Anant Sahai, Misha Belkin, Daniel Hsu
Vignesh Subramanian, **Adhyyan Narang**, Vidya Muthukumar
"Classification in overparameterized regimes"
JMLR (Prospective venue)

(In preparation) **Adhyyan Narang**, Forest Yang, Rohan Sinha
Anand Siththaranjan, Laurent El Ghaoui (Equal Contribution)
"Data Poisoning for Linear and Logistic Regression"
ICML 2020 (Prospective venue)

(In preparation) **Adhyyan Narang**, Armin Askari, Vidya Muthukumar
Laurent El Ghaoui
'Fast training of adversarially robust models'"
NeurIPS 2020 (Prospective venue)

Teaching

(Upcoming) Head Content TA, UC Berkeley
Electrical Engineering 16A (Spring 2020)
Responsible for designing homework assignments and examinations.
Responsible for teaching sections (2/week of 1 hour each) for $\approx$ 30 students.

Languages

English (native), Hindi (native)