

# Adhyyan Narang

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[Webpage](#)

## 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 **BLISS Lab, UC Berkeley**

Experience *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,  $d \rightarrow \infty$ .
- 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	<b>UberEats</b> <i>Machine Learning Engineering Intern</i> (May 2018 - August 2018) <ul style="list-style-type: none"> <li>Created a microservice in GoLang that automatically offers promotional offers to users.</li> <li>To decide which users to offer promotions to, framed a constrained optimization problem: maximize profits without exceeding the budget.</li> <li>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.</li> </ul>
	<b>Veritas Technologies</b> <i>Data Engineering Intern</i> (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	Anant Sahai, Misha Belkin, Daniel Hsu Vignesh Subramanian, <b>Adhyyan Narang</b> , Vidya Muthukumar “Classification in overparameterized regimes” <i>Submitted to JMLR</i>
	(In preparation) <b>Adhyyan Narang</b> , Forest Yang, Rohan Sinha Anand Siththaranjan, Laurent El Ghaoui (Equal Contribution) “Data Poisoning for Linear and Logistic Regression” <i>ICML 2020</i> (Prospective venue)
	(In preparation) <b>Adhyyan Narang</b> , Armin Askari, Vidya Muthukumar Laurent El Ghaoui “Fast training of adversarially robust models” <i>NeurIPS 2020</i> (Prospective venue)
Teaching	<b>(Upcoming) Head Content TA, UC Berkeley</b> <i>Electrical Engineering 16A</i> (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)