# CONNER DIPAOLO

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## EXPERIENCE

**Yelp** − *San Francisco, CA* 						June 2019 - Present
*Machine Learning Engineer − Pricing and Revenue Optimization*

· Automated common Redshift analytics requests from enterprise sales associates, reducing turn-around time by 99.9% (4 days to 5 minutes) and saving the company 66.5% of the wages spent on the old, manual pipeline.

**Jet Propulsion Lab** − *Pasadena, CA* 					June 2018 - August 2018
*Research Intern − Deep Space Optical Communications*

· Mathematically developed improved statistical algorithms for ground communications receiver control which are currently implemented in hardware and slated to join the 2022 Psyche mission to an asteroid near Mars.

**Yelp** − *San Francisco, CA* 						May 2017 - August 2017
*Machine Learning Intern − Advertisement Optimization*

· Architected a GPU-trained PyTorch-based deep learning model used to select between millions of ad photos.
· Generated a statistically significant 4.5% lift in advertisement click-through rate over status quo photo selection.

**Yelp** − *San Francisco, CA* 						May 2016 - August 2016
*Machine Learning Intern − Spam and Hate Speech Detection*

· Increased out-of-sample Matthews Correlation of a spam detection model by 25.7% over the status quo model on points detected by humans as 'difficult to classify' by running a principled model search.
· Primary author of a service marshalling over 350,000 Kafka messages/day into MySQL tables for four teams.

## PUBLICATIONS

**A Randomized Algorithm for Preconditioner Selection** 			arxiv.org/abs/1908.00633
*By Conner DiPaolo and Weiqing Gu. Submitted. August 2019.*

· Derived a practically efficient randomized algorithm for a previously difficult preconditioner selection problem.
· Created state-of-the-art preconditioned solver for kernel regression using our preconditioner selection algorithm.

**Signal Intensity Deconvolution in Optical Receivers** 		doi.org/10.1109/LCOMM.2019.2912382
*By Conner DiPaolo and Ryan Rogalin. IEEE Communications Letters. July 2019.*

· Developed the first statistically consistent algorithm for estimating the center of a laser communications beam.
· Proved non-asymptotic error bounds for the sub-problem of signal/background intensity deconvolution.

## OPEN SOURCE

**GOML** 								github.com/cdipaolo/goml
*Creator - Second most starred Golang machine learning library on Github with $> 1,000$ stars.*

· Developed the only ML library using Golang data channels to train models in an online and parallelizable way.

## SKILLS

**Programming Languages:** Python, SQL, R, Golang, Matlab
**Tools & Technologies:** Numpy, SciPy, Pandas, Git, Redshift, SciKit-Learn, PyTorch, Apache Spark

## EDUCATION

**Harvey Mudd College** − *B.S. Mathematics with Departmental Honors* 	*3.84 GPA, 3.88 In-Major GPA*
**HMC Mathematics Awards:** *Giovanni Borrelli Prize, Chavin Prize, Courtney S. Coleman Prize*