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Nathan Dalal

www.nathandalal.com
github.com/nathandalal

Education

Stanford University
September 2018 — June 2019 (expected), **GPA: 3.8**
M.S. Computer Science (Artificial Intelligence)

Stanford University
September 2015 — June 2019 (expected), GPA: 3.7
B.S. Computer Science (Information), **minor Education**

Relevant Coursework

AI Background	Machine Learning, Artificial Intelligence	CS 229, CS 221	Aut 2016, Aut 2017
Deep Learning and NLP	Deep Learning, Generative Models	CS 230, CS 236	Aut 2017, Aut 2018
	Natural Language Processing, Understanding	CS 224N, CS 224U	Win 2019, Spr 2019
Education and Teaching	Intro CS TA, Intro Education	CS 198, ED 101	Present, Aut 2016
Core CS Background	Operating Systems, Algorithms	CS 140, CS 161	Spr 2018, Win 2017

Industry Experience

Robinhood Sum 2018
Data Engineering Intern (Data Team — Menlo Park, CA) **Spark, Kafka, AWS**
- Supplied 100M+ rows of key user metrics with serverless ETL jobs, removing cross-server joins and speeding up data inquiries
- Modernized Robinhood's AWS Glue "data lake" infrastructure, built logging pipeline for stock news stream processing

MongoDB Sum 2017
Software Engineering Intern (Education Team — New York, NY) **ReactJS, UX, Python, NodeJS**
- Worked with CS educators, CS4All, CSNYC, and NYC Dept of Education to create meaningful computer science units
- Built mean-median-mode.herokuapp.com, telegraph-unit.herokuapp.com, polynomial.herokuapp.com (read here)

Gigster Sum 2016
Software Engineering Intern (Automation Team — San Francisco, CA) **ReactJS, ElasticSearch, MongoDB**
- Maintained internal LinkedIn for the Gigster network, built metrics dashboard, and built a new developer sourcing process

Research Experience

Chris Piech Lab Aut 2018 — Present
Research Lead **Object Detection, Speech Recognition, NLP**
- Year-long research analyzing 100K+ Colombian teaching videos to reduce costs of teacher evaluation with deep learning
- Currently applying object detection and language models to the problem, using ideas from YOLO, Mask R-CNN, and others

Andrew Ng Lab (Stanford Machine Learning Group) Win — Spr 2018
Student Researcher **NLP, Transformer, TensorFlow**
- Helped develop crio.stanford.edu, a grammatical error correction project using neural machine translation
- Developed domain adaptation methods and set up a user data pipeline to personalize model results
- Worked with open source Transformer model (Attention Is All You Need) and adapted it for deployment

Stanford Center for Education Policy Analysis Aut 2017
Student Researcher **Deep Learning, TensorFlow, Education**
- Training recurrent neural networks as an early warning indicator to predict dropout and performance in high school students
- As part of Deep Learning (CS 230), consulted SF Unified School District on future directions with machine learning

Deep Learning Coursework Projects Aut 2016 — Win 2018
Research Project Member **CNN, RNN, Deep RL**
- CS 224N (NLP) — Implemented a recurrent neural architecture to model learning a second language
- CS 221 (AI) — Ran different LSTM models to generate unique music from MIDI files around the internet
- CS 229 (ML) — Used Faster R-CNN to automate labeling bounding boxes and SVM to predict stages of knee osteoarthritis
- CS 234 (RL) — Framed optical flow prediction as a deep Q-learning problem, taking actions in direction of flow

Teaching Experience

CS198 Section Leading Program Fall 2016 — Present
Senior Section Leader (TA) **Java, C++**
- For six quarters, taught introductory CS curriculum (CS 106A/B/X), held office hours, and graded homework and exams
- Offered a lesson on educational teaching theory to other section leaders, which is now integrated into the CS 198 TA training
- Instructor for CS 198B, a class teaching section leaders how to teach programming abstractions

Other Work and Fun

Stanford Sanskriti	Stanford's South Asian cultural organization	President	Present
Stanford Raagapella	South Asian a cappella group, built raagapella.com from scratch	Musician	Present
Inria	Built a bus visualization system in Santiago, Chile (read here)	Developer	Spr 2017
Sequoia High School	Shadowed a repeat Algebra 1 teacher	Teaching Intern	Win 2017
Warriors Fan	Golden State Warriors Chrome theme — peak at 70K+ users	Developer	Sum 2016

Se habla español.