

# Joseph Chuang

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## EDUCATION

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### Cornell University, Ithaca

Expected: 2020

- Bachelor of Science in Computer Science, College of Engineering
- Relevant coursework: Algorithms, Machine Learning and Intelligent Systems, Computer Systems, Functional Programming, Advanced Topics in Machine Learning, Advanced Machine Learning Systems
- GPA: 4.12

## PROJECTS

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### Engag-ed - Big Red Hacks Cornell - Microsoft Prize, Best UI

Sep 2017

- Built an intelligent classroom suite that included features such as facial-recognition based attendance tracking, real-time student sentiment and engagement analysis, and instant polling
- Worked in and directed 4-person team in building webapp, implementing a RESTful API in Express, interfacing with Microsoft Cognitive Services Emotion/Face APIs, and using Mongoose/Mongo for persistent storage
- Presented as 10 finalists out of 40+ teams, final entry won the Microsoft Grand Prize and Best User Interface

### Machine Learning Playground - [ml-playground.com](http://ml-playground.com)

Jun - Aug 2017

- Created user-friendly educational site introducing ML with customizable models, featured on front page of Product Hunt
- Designed a testing playground that took user input from an HTML canvas managed by a complex class structure using React and Promises, then pipelined user-designed datasets to the models for training and classification
- Implemented multiple machine learning algorithms from the ground up (KNN, decision trees, neural networks and more) with JavaScript and math.js

### Showerfy - Big Red Hacks, Cornell

Sep 2016

- Led 5-person team in development of Android app that gamified showers to reduce water usage in response to a local drought, using a timer that played music through the Spotify Android SDK
- Learned, implemented, and taught Android development with Java
- Presented as one of 10 finalists out of all 30 participating groups

### FailureDetectionDS - Big Red Hacks Spring, Microsoft, Cornell - Second Place

Mar 2017

- Developed suite of methods for detecting anomalies in time series telemetric data
- Worked in a team of 4 to learn and develop a model pipeline on the Microsoft Azure Machine Learning platform, using packages such as correlative and Time Series based modules
- Designed final technical presentation; project won 2nd place overall out of approximately 30 participating teams

## EXPERIENCE

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### Algorithms (CS 4820) Teaching Assistant

Aug 2017 - Current

### Kaggle Subteam Lead - Cornell Data Science Project Team (CDS)

Aug 2017 - Current

- Currently leading subteam of 9 in Kaggle competitions, exploring text and image based datasets and applying state of the art Python packages such as XGBoost and Tensorflow/Keras to develop competitive models
- Directed team effort to compete in the Zillow Dataset challenge, using Pandas, Numpy, XGBoost, LGBM, Catboost and general ensembling methods to generate a top ~5% submission

### Researcher (Under Contract) - Team Ursa

Jul - Sep 2017

- Conducted research at a small-sized startup for an audio alignment task, determining the relative time difference between audio recordings of the same interview taken with different devices
- Used FFMPEG, Numpy and Scikit to downsample, preprocess, calculate correlation and determine a result by consensus
- Built a modular system that achieved human-level performance, then wrote accompanying documentation in preparation for integration with core product, an interview recording app

### Junior Software Engineering Instructor - Horizons School of Technology, San Francisco

May - Aug 2017

- Tutored cohort of 100+ undergraduates in small group seminar settings, dynamically responding to student queries and resolving technical roadblocks
- Designed and revised curriculum covering full MERN stack (MongoDB, Express, React/Redux, Node), was responsible for building an introductory React tutorial

## SKILLS

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- Web Development: Javascript, Node.js, React/Redux, Firebase, Express.js, MongoDB, Mongoose, Sockets.io
- Data Science: Python, Numpy, Pandas, Scikit-Learn, XGBoost, Catboost, Pytorch
- Software Development: Java, C++