

# Michael Gu

PRODUCT · NLP · ENGINEERING

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## Education

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### University of North Carolina at Chapel Hill

*Chapel Hill, North Carolina*

MASTERS OF SCIENCE IN COMPUTER SCIENCE, MACHINE LEARNING FOCUS

*August 2014 - December 2018*

- Coursework: Natural Language Processing, Exploring Virtual Worlds, Algorithms & Analysis, Internet Services & Protocols, Digital Logic
- Awards: Phi Beta Kappa, Bryan Social Innovation Fellow, TEDxUNC Student Speaker, Perfect SAT (2400)

## Experience

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### Data Science Intern @ PayPal

*San Jose, California*

TECHNOLOGIES: KERAS + TENSORFLOW, SCIKIT-LEARN, REACT, NODE.JS, VARIOUS NOSQL DATASTORES

*May 2017 - Present*

- *Infrastructure*: Implemented machine learning pipeline that **1**) predicts adaptations within global content editor **2**) stores content designer feedback in NoSQL DB and **3**) automates retraining of classifier for predicting future adaptations
- *Product*: Establish timeline for system deliverables, draft user stories, give presentations and demos to key stakeholders (Content, G11N, and L10N managers/directors)

### Software Engineering Intern @ Massdrop

*San Francisco, California*

TECHNOLOGIES: NODE.JS, REACT, FLUXIBLE, REDIS, MYSQL, JENKINS, AWS

*May 2016 - August 2016*

- Optimized product sorting algorithm within personalization pipeline, increasing product click-through by 6%
- Designed A/B tests for millions of active users, automated using Jenkins and deployed on Amazon AWS
- Built API for comments and replies system, incorporated into product discussion threads
- Assisted in codebase cleanups including fixing race conditions and inefficiencies in redis caching

### Teaching Assistant @ UNC Dept. Computer Science

*Chapel Hill, North Carolina*

TECHNOLOGIES: HTML/CSS/JAVASCRIPT

*January 2016 - May 2016*

- Led discussions, hosted office hours, and graded assignments for COMP 101

## Projects

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### HoloLens - Math Expression Detection and Graphing

TECHNOLOGIES: UNITY, C#, VISUAL STUDIO, LATEX, MATHPIX

- Built Augmented Reality app that allows for 3D graphing of math expressions written on a whiteboard — final project for *Exploring Virtual Worlds w/ Henry Fuchs*
- Utilized voice-initiated image capture, detection of expression via Mathpix API integration, and dynamic Unity mesh generation for visual representation
- Link: [github.com/michaelgu95/HoloLensRecognition](https://github.com/michaelgu95/HoloLensRecognition)

### Swap, Drop, Enroll

TECHNOLOGIES: PYTHON + FLASK, SENDGRID, CAPYBARA WEBDRIVER, MYSQL

- Course enrollment utility that automates the process of enrolling students in a desired class once a spot opens
- Produced webhook by scraping UNC course registration website, distributing the open spot to winning student via lottery system (user's weight is determined by number of user referrals to the service)
- 215 successful enrollments @ 98% success rate for Fall 2016
- Integrated system into Office of Registrar through collaboration with UNC Vice Chancellor of Technology

### Zlto.co

TECHNOLOGIES: PYTHON + DJANGO, REACT, REDUX, AWS

- Revamped backend infrastructure for Zlto.co, a mobile wallet that enables youth in South Africa to build their communities
- Rewards positive outreach activities with Zlato virtual currency, which can then be spent on food, clothing, and cellular data
- Secured funding from Mastercard Foundation

## Technical Skills

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### Fluent

- Python, JavaScript, Java, Bash, PHP, HTML5, CSS, MySQL, NoSQL, GraphQL

### Proficient

- Go, C#, Objective-C, C, MIPS Assembly

### Testing Frameworks

- Jest, Enzyme, Chai, Protractor, JUnit