

# Andrea Qiu

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## EDUCATION

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**Cornell Tech at Cornell University**, New York, NY

Master of Science in Info System in Health Tech

May 2020

**Brandeis University**, Waltham, MA

Bachelor of Science in Computer Science and Business, *cum laude*

Dec 2017

## SKILLS

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**Programming Languages:** Java, Python, Ruby, HTML, JavaScript, CSS, SQL, C++, R, Scheme

**Software:** Git, Eclipse, Sublime Text, ROS, Arduino, Blender, RStudio, Adobe Photoshop

**Operating Systems:** Mac OS, Linux, Windows

## PROJECTS

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*Image Search Engine*, **Team Member (Python, Machine Learning)**

Dec 2018

- Tackled the problem of image retrieval based on text query by using Bag of Words for natural language representation and PLSR (Partial List Square Regression) for multidimensional regression

*Health Insurance Decoder*, **Leader (Ruby on Rails, PostgreSQL)** [Website](#) | [Github](#)

Sep - Dec 2017

- Lead a team of 4 to develop a full-stack web application using *Ruby on Rails* with *PostgreSQL*, following test driven development and *Agile* Methodology
- Incorporated techniques including authentication, session, Ajax, RESTful API, RSS feed subscription, automated testing, with PostgreSQL database schema and active record
- Provided estimated out of pocket pay and recommended in-network healthcare providers covered by Brandeis University student insurance plan based on the self-diagnostic results returned by API calls
- Performed market analysis and obtained NSF I-Corp funding in Nov 2017

*UNIX Emulator*, **Programmer (Java, UNIX)** [Github](#)

Sep-Dec 2016

- Achieved concurrent and asynchronous commands and pipeline-like input/output redirections by developing a basic Unix-like shell with multi-threaded programming techniques
- Provided a standard seek/read/write interface by designing a simulation of UNIX File System
- Implemented inodes and single, double and triple indirect blocks to support large files

*Campus Navigation App*, **Leader (HTML5, JavaScript, CSS, mongoDB)** [Github](#)

Jul - Dec 2015

- Lead a team of 4 to build a full-stack web-based campus navigation app called Discover Deis using *HTML5*, *JavaScript*, *CSS* with *MongoDB*, under the framework of Meteor
- Presented Business plan for the project and won SPARK Award sponsored by Brandeis University in Feb 2016, as well as support from Microsoft BizSpark Program in March 2016

## EXPERIENCE

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*Robotics Lab, Brandeis University*, **Research Assistant**

Sep 2017 - May 2018

- Conducted pilot study called Campus Rover, which aims to deliver packages using robots across the campus
- Investigated obstacle avoidance and indoor navigation using SLAM and PID control in *Python* and *C++*
- Explored visual fiducial system with *TurtleBot3* and *iRobot Create* on *Robotic Operating System(ROS)*
- Solved line mazes and wall mazes with *mBot* by programming on *Arduino* using *C*

*Brandeis University*, **Teaching Assistant**

Jan 2016 - May 2018

- Held weekly office hours to help students in the following courses: Statistics for Economic Analysis, Autonomous Robotics Lab and 3D animation
- Prepared instructional materials and demo's, drafted and graded programming assignments and quizzes

*Brain Computer Interface Lab, Brandeis University*, **Lab Assistant**

Jan - May 2017

- Did pattern recognition on EEG data with *Machine Learning* to distinguish between brain signals produced when subject is engaged versus relaxed to improve learning quality by monitoring brain activity