

# Ivan Chowdhury

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## Education

**The Cooper Union for the Advancement of Science and Art**, New York, NY  
Bachelor of Engineering in Electrical Engineering, specialization in Computer Engineering

Sep 2016 — May 2020

## Skills

Languages: Java, Python, HTML, CSS, JavaScript, Bash

Technologies: Git, PostgreSQL, MySQL, Spring Boot, React, Linux, Android, JUnit, Maven, TensorFlow, Keras, NLTK, Jupyter

Other: RESTful Web Services, JSON, HTTP, Test-Driven Development (TDD)

## Projects

**NutriDiary: Adaptive Nutrition Tracker** | [GitHub](#) | Ongoing

- Developing a full-stack web application that logs nutritional data, and uses it to compute personalized calorie and protein intake recommendations that adapt to gain accuracy over time, helping users meet their weight loss or muscle gain goals
- Building a dynamic frontend using JavaScript, React, and the Chakra UI library
- Implementing a REST API with Java and Spring Boot, to interface with a PostgreSQL database
- Deploying with Google Cloud Run and Cloud SQL (GCP)
- Integrating bcrypt password encryption for secure database storage, using Spring Security

**itsMe: Attachable Smart Lock** | [GitHub](#)

- Led a team of 4 to invent a low-cost smart lock that installs seamlessly by latching onto doors, allowing tenants, apartment owners, and moving homeowners to reuse it frequently without renovation costs
- Developed an Android app in Java for remote control and monitoring of the smart lock
- Programmed a Raspberry Pi in Python for Bluetooth Low Energy (BLE) request handling and high-precision Servo rotation
- Published an open-source design that could be customized, 3D-printed, and assembled at 30% of the cost of industry smart locks, and was evaluated positively by over 100 undergraduates, faculty, and visitors

**Movie Review Sentiment Analyzer** | [GitHub](#)

- Built a recurrent neural network (RNN) in Python that performs sentiment analysis on movie reviews; users may input a movie review, and the neural network will predict whether it has a positive or negative sentiment
- Applied TensorFlow and Keras to train the RNN on a dataset of 50,000 IMDb movie reviews, achieving a prediction accuracy rate of 93.54%

**MATCH: Social Networking Platform** | [GitHub](#)

- Collaborated with a team of 4 to develop a full-stack web application for a social network that matches users to local friends with common interests
- Implemented a web chat in JavaScript, and interfaced with a MySQL database using Java and JDBC
- Wrote unit and integration tests for database-handling code in Java, using JUnit and Mockito

**RestMapNYC: Restaurant Plotter** | [GitHub](#)

- Created a website with JavaScript and jQuery that searches up to 5 different Yelp queries simultaneously, then displays the best matches on a map of NYC, with quick access to each result's Yelp profile
- Accessed the Yelp Fusion and Google Maps APIs for restaurant and map data, and the CORS Anywhere API to send cross-origin requests with Ajax

## Activities

Google Developer Student Club, Institute of Electrical and Electronics Engineers (IEEE), Toastmasters International