Ivan Chowdhury

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PROJECTS

itsMe: Attachable Smart Lock 2019 - 2020
Capstone Project

An Internet of Things (IoT) compatible smart lock controlled remotely with an Android application. Fully ***open-source, customizable design*** that can be 3D-printed and assembled at ***under $60***. Designed for low-cost, modular assembly, and seamless installation with ***no required home renovation***.

Key Responsibilities:

- Developed and deployed an Android application for live monitoring and controlling of the lock's state.
- Programmed a Raspberry Pi for Bluetooth Low Energy (BLE) request handling and high-precision Servo control.
- Published two video ***demos***, a ***30-page technical paper***, a recorded presentation, and design schematics for public use.

NYC Restaurant Mapper Fall 2020
Personal Project

- Developed a web application that searches up to 5 different food or restaurant queries simultaneously, then displays the best matches on a map of NYC, with quick access to each restaurant'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 JQuery.

Movie Review Sentiment Analyzer Spring 2020
Natural Language Processing

- Trained a recurrent neural network (RNN) to perform sentiment analysis on user-inputted movie reviews, using TensorFlow, Keras, and a dataset of 50,000 highly polar movie reviews.
- Recorded an ***accuracy of 93.54%*** during testing.

MATCH: Friend-Matching Platform Spring 2019
Software Engineering

A web application that matches users with friends that share similar interests in their area. The app features a chat system, user account management, PBKDF2 encryption, and cookie support.

Key Responsibilities:

- Wrote a friend-matching algorithm that utilizes user geolocation data, hobbies, and interests to optimize friend matches.
- Wrote backend code for creating, storing, and retrieving data from a MySQL database using JDBC.
- Implemented an image upload feature using the Spark framework and JDBC.

EDUCATION

Cooper Union for the Advancement of Science and Art Fall 2016 - Spring 2020
Bachelor of Engineering in Electrical Engineering, focus in Computer Engineering
Honors: Innovator's Merit Scholarship, National Society of Collegiate Scholars nominee, Dean's List (2016-2017)

SKILLS

Java, Python, Javascript, CSS3, HTML5, SQL, C++, C, MATLAB, Assembly | MySQL, TensorFlow, Keras, NLTK, Spark, JQuery, Express.js | Raspberry Pi, Arduino | Windows (XP, 7, 8.1, 10), Linux (Ubuntu 20.04 LTS)