

Muhammad Hamza Nasir

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Skills

PROGRAMMING LANGUAGES

JavaScript
Python
Ruby
Java
C
R

FRAMEWORKS

Node JS
Express JS
React JS + Redux/MobX
Tornado
Django
Ruby on Rails
Sails JS

DATABASE SYSTEMS AND SCRIPTING LANGUAGES

PostgreSQL
MySQL
MongoDB

INTERNET OF THINGS

Arduino
Raspberry Pi
ESP8266
Helium Platform

CLOUD PLATFORMS AND VIRTUALIZATION

Docker
Amazon AWS/EC2
Heroku

Education

Illinois Institute of Technology

Bachelor of Science in Computer Engineering - May 2019

- Cumulative GPA: 3.56
- Dean's list awardee for all semesters in school
- IEEE-Eta Kappa Nu Delta Scholar (Top 20% in School)

Employment

Real-Time Communications (RTC) Lab

Software Engineering Teaching Assistant

Chicago, Illinois
Aug. 2018 to Current

- Mentor students in Agile software development, and help manage Indoor location Emergency app.
- Teach students to work with web frameworks such as **Sails JS**, **Express JS** and **Ruby on Rails** along with database systems such as **MySQL** and **MongoDB** to develop backend api services.
- Lead development in front end applications using **React JS**.
- Manage team timelines and feature roll outs.

Weight Watchers International

Backend Engineering Intern

675 6th Avenue, New York, New York
May 2018 to Aug. 2018

- Worked in an Agile software development environment to develop and push features to production for a complete rebrand of the Weight Watchers mobile and web apps.
- Designed and implemented **end to end integration tests** for key **microservices** pushing code coverage from **50% to 70%**.
- Analyzed crowd sourced foods and recipes in the market of Australia using data mining algorithms such as **Hierarchical Clustering** and **DBScan** to gain insights on popular and recurring foods.
- Upgraded all microservices from **Node 6 to Node 8** to leverage new **ignition+TurboFan** pipeline for **faster performance**.

NuMat Technologies, Inc.

Software and Controls Intern

May 2017 to Aug. 2017

- Set up a **gas-test manifold** with a variety of **sensors and actuators** to allow production of a specific kind of **Metal Organic Framework (MOF)**.
- Developed full-stack web application in **Python** using **Tornado** and **MongoDB** to communicate with the gas-test manifold and its components so that chemists can **observe and control** its state remotely.
- Fixed long-standing bugs with existing systems and **updated controller programs** to comply with most recent code standards (**PEP 8**, **ES6**, **Airbnb-Javascript**).

Projects

Indoor Location for Emergency Callers - api.iitrtclab.com

Lead a team of 14 developers to develop a service which allows callers in distress to call a PSAP (Public-Safety Answering Point) operator with GPS location along with an exact indoor location including, room number and floor. The service uses multiple BLE devices on every floor to calculate location using an algorithm that triangulates using RSSI values and use those x, y co-ordinates to map to a particular floor and room.

IIT Facilities Application - rtcfacilities.herokuapp.com

Developed a full-stack web application with **Ruby on Rails** and **PostgreSQL** that uses data from IIT's real-time communication platform to get data for temperature and humidity for every room and floor. The facilities department can use the app to monitor temperatures while students/faculty can use the app to request for a higher or lower temperature by interacting with **SVG's** for that particular room and floor. Application uses **d3** for **data visualization**.

FakeAir - fakeair.herokuapp.com

Developed a **full-stack airline booking web application** using **Node JS**, **Express JS** and **PostgreSQL** with an intuitive front-end interface made using Bootstrap. No ORM was used to emphasize SQL scripting and queries. Deployed on Heroku.

Personal Home Automation System

Arduino Controlled mini-home automation system for a room that **controls lights based on voice recognition and various sensor readings** (e.g. light, proximity). For example, when the light in the room is low and the proximity sensor registers a reading of someone's presence in the room, a voice prompt will ask the person whether he/she wants to turn on the lights.