Muhammad Hamza Nasir

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Skills

PROGRAMMING LANGUAGES
JavaScript
Python
Ruby
Java
C

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

DATABASE SYSTEMS AND SCRIPTING LANGUAGES
PostgreSQL
MySQL
MongoDB

MICRO-CONTROLLERS AND COMPUTERS
Arduino
Raspberry Pi
ESP8266

CLOUD PLATFORMS AND VIRTUALIZATION
Docker
Amazon AWS/EC2
Heroku

Education

Illinois Institute of Technology
Bachelor of Science in Computer Engineering - May 2019
• Cumulative GPA: 3.52

Employment

NuMat Technologies, Inc.
Software and Controls Intern May 2017 to Aug 2017

NuMat Technologies, Inc. is an advanced technology company innovating at the **intersection of big data, material science, and hardware systems**.
• 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

FakeAir - fakeair.herokuapp.com
Developed a **full-stack** airline 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.

Power-grid Simulator
Programmed a real-life **power grid simulation** program that distributes power to consumer units in a way that does not **overload power distribution systems** (i.e. Transformers, three-phase power sources etc.).

Lottery Simulator
Programmed a **lottery simulation program** that can support over 100,000 players with configurable prize distribution systems using **Java**.

Maze solving robot
Worked with a team to **engineer a small vehicle** out of LEGOs that uses **light and touch sensors** to **autonomously** navigate through any random maze with either physical or paper-tape walls using the **Handy-board microcontroller**.

Awards

Dean's List Awardee
All semesters in school except for Spring 2016

IEEE-Eta Kappa Nu Delta Induction
Inductions handed out to top 20% of batch

Leadership

Pakistani Student Association · Treasurer
• Work with the president to organize and schedule events. Assume the role of the president in his absence.
• Responsible for deciding and altering budgets with the Office of Campus Life. Emailing cooperatively with fellow executive board members and outside parties.
• Conducting seminars and setting up conferences with the help of the executive board.

Beaconhouse Newlands Debating Society · Vice president
• Coordinated with Model United Nations exec-boards, conducted MUN trials and participated in conferences.
• Worked with coach and president to hold two debating sessions per week.