

Stephen Duke

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dukefromearth.com

OBJECTIVE

Creative software engineer & hardware guru driven to contribute to the productivity and culture of a diverse team, while deepening and sharpening my development skills.

SKILLS

- ❑ **Software:** C++, JavaScript, Node.js, Git, AWS, Java, Web Sockets, IoT, Tensorflow, C#, Three.js, HTML, R, Python, SQL, NoSQL, ROS
- ❑ **Hardware:** Arduino, Raspberry Pi, AT, ESP32, ARM, Steppers, Motors, LED, Lasers
- ❑ **Design:** SketchUp, Blender, Gazebo, GIMP
- ❑ **Fabrication:** 3D Printing, CNC, Welding, Carpentry

EXPERIENCE

FROM EARTH - 06/2019 - Present

Software Developer

Selected Work:

- ❑ Built and developed cross-platform research software for the psychology department of Stephen F. Austin State University that tracked user interaction to test saccadic eye movement under different levels of distraction - **Node.js** and **JavaScript**.
- ❑ Developed a mobile application that provides tactile indoor maps for people that are visually impaired using **C#** and **Unity**.
- ❑ Developed a high-impact electronic device for enhanced board game play using **atmega328** in **C++** that used bit manipulation from accelerometer readings to create a true random number generator.
- ❑ Built and deployed a **Node.js** IoT server on **AWS EC2** that used a **REST** architecture to connect a suite of devices that controlled an array of motors, relays and sensors.
- ❑ Built and developed the hardware and **C++** software for a motor control and feedback system in a drone prototype.
- ❑ Fabricated an interactive & modular automata structure to teach students about STEM. The structure contained an array of **arduino**'s, motors, LED's and pulleys.

OFCOURSE.IO - 04/2020 - Present

Instructor - Human Computer Interaction

- ❑ Teach students to create a **full stack** environment that interacts with custom built hardware and sensors using **HTML**, **JavaScript**, **Node.js**, and **Arduino**.

PROJECTS

- ❑ Genetic Algorithm for AI driven self-balancing bicycle written in **Java**.
- ❑ 2nd Place in **AI** Mastermind Competition using a Genetic Algorithm -- written in **Lisp**.
- ❑ Genetic Algorithm for generating cellular automata patterns that gravitate toward specified targets -- written in **Python** & **JavaScript**.
- ❑ Designed and built portable electrical and data connections for over 10000 sq ft office in 4 World Trade Center conforming to NYC electrical code.
- ❑ Move Different Exhibition - 8'x8' interactive & touch-sensitive **LED** structure - **Raspberry Pi** & **Python**.

EDUCATION

Bachelor of Computer Science

CUNY Hunter College 04/2016 - 12/2019

Robotics Nanodegree

Udacity 07/2020 - PRESENT