Zach Brogan

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EDUCATION

BRIGHAM YOUNG UNIVERSITY
BS in Computer Engineering
Apr 2018 | Provo, UT
Computer Science Minor
Cum Laude
GPA: 3.93 / 4.0

COURSEWORK

Computer Systems
Web Programming
Computer Networking
Real-time Operating Systems
Computer Security
Advanced Programming
Computer Organization
Signals & Systems
Electronic Circuit Design
Embedded Programming
Discrete Structures
Circuit Analysis
Data Structures & Algorithms
Digital Systems
Computer Programming

ACHIEVEMENTS

AWARDS & AFFILIATIONS

Phi Kappa Phi
Tau Beta Pi
Eta Kappa Nu
Golden Key Honor Society
IEEE *(Institue of Electrical and Electronics Engineers)*
ACM *(Association for Computing Machinery)*
Dean's List *(5 semesters)*
Brigham Young Scholarship
Wings Financial Scholarship
NESA Scholarship *(National Eagle Scout Association)*

LEADERSHIP

BYU IEEE Secretary
Feb 2017 - Jan 2018 | Provo, UT

Volunteer Representative
Sep 2013 - Aug 2015 | SP, Brazil

EXPERIENCE

SPOTTERRF | Software Engineer
May 2018 - Present | Orem, UT

- Work on a **Linux**-based surveillance radar system as part of an Agile team.
- Implement features and fixes for the radar software using **Angular.js**, Jade, CSS, **Golang**, and PostgreSQL.
- Create unit, API, and browser tests using **Selenium** and other tools.
- Write drivers in **Python** to integrate 3rd-party IP cameras into the radar tracking software with pan-tilt-zoom control.

BYU INTERNET OF THINGS LAB | Research Assistant
Oct 2016 - Apr 2018 | Provo, UT

- Designed an **IoT** thermostat system built with ESP8266 Wi-Fi microcontrollers and custom relay circuitry.
- Created a serverless REST API for the thermostat system, deployable on Amazon Web Services (**AWS**).
- Developed a virtual thermostat web app in **JavaScript** to utilize the API.

DIGI INTERNATIONAL | Software Engineering Intern
May 2017 - Sep 2017 | Lindon, UT

- Contributed to **firmware development** of Zigbee radios by implementing features in **C** for calibration, temperature sensing, and ADC integration.
- Improved and maintained an internal web app built with the MEAN stack.
- Verified Zigbee chip quality by writing tests with a Python test framework.

PROJECTS

Radix | radix.zachbrogan.com
A web app for converting 64-bit integers between hex, decimal, and binary, built with Vue.js.

Sleep Sensor Lamp | github.com/zbrogz/sleep_sensor
BYU senior capstone project: A prototype bedside lamp adapter that automatically detects sleep using a radar sensor and actigraphy algorithm implemented in Python.

Bluetooth Keyless Entry | devpost.com/ZachBrogan
A system for unlocking my car using my phone, including an Arduino 101 and companion iOS app, entered into Intel Hacks 2017.

See more at *github.com/zbrogz* and *zachbrogan.com*

SKILLS

PROGRAMMING LANGUAGES & TECHNOLOGIES

C • **Python** • **Go** • **JavaScript** • Java • C++ • Bash • HTML • CSS • Matlab
System Verilog • x86 Assembly • Linux • Raspberry Pi • Arduino • BLE • HTTP
TCP/IP • WebSocket • JSON • React.js • Angular.js • Vue.js • Git • Selenium
GDB • iOS • Android • iOS • AWS • Docker