Steven Mitchell

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TECHNICAL SKILLS

Languages: Java, C/C++, Python, JavaScript, HTML, CSS, Swift

EDUCATION

Binghamton University, State University of New York **Received May 2019**

- Bachelor of Science, Computer Science

Barclays Investment Bank - Java Developer Course (Per Scholas) **(Remote, Summer 2020)**

- Creating Habit tracking web application that tracks goals and habits set by the user, and displays calendar progress
- Planning, analyzing, designing, implementing and testing web application using Agile-Scrum Principles
- Building application with Spring MVC, CSS, HTML, JavaScript, Bootstrap, Java, SQL, JPA, MariaDB, and DAO pattern

INTERNSHIP EXPERIENCE

Persistent Systems, LLC – Java Software Development Intern **(New York NY, May - August 2019)**

- Coded full stack desktop application in Java for configuring and testing functionality of embedded system using Maven build environment in IntelliJ
- Coded multithreaded testing application using blocking and asynchronous communication between radios to configure them and perform communication testing using Java API
- Relayed testing results of individual devices to SQL database. SQL database was queried for configuration values and test results were posted in another database
- Created frontend using JFrame, IntelliJ GUI Designer, to accept user input as test parameters for testing procedure

NASA Johnson Space Center - C/C++ Software Development Intern **(Houston TX, Summer 2018)**

- Implemented C++ microcontroller code and python server code to enable Bluetooth Low Energy (BLE) 3D tracking
- Scanned area for advertised packets from BLE beacons with microcontroller using GAP communication protocol
- Designed and implemented data structure to store BLE beacon signal strength (RSSI) and device ID information
- Transferred beacon data structure between server and microcontroller using PyGatt library
- Setup real-time UART terminal debugger and coded debugging and memory configurations for the embedded system
- Presented exit presentation with findings to Avionics branch and reported documentation with results and future work

PROJECT EXPERIENCE

Leetcode Competitive Programming Participant **(New York, June 2019 - Present)**

- Regular participant in leetcode coding challenges and competitions dealing with data structures and algorithms
- Learned to apply dynamic programming, graph, backtracking, tree, and divide and conquer algorithms to coding challenges

SpaceX Hyperloop Pod Design Competition Finalist (Top 24 / 1200+) **(Hawthorne CA/Binghamton, 2017-2019)**

- Designed and implemented software for guidance, navigation, and control system of pod prototype to ride on SpaceX track
- Collaborated closely on software and communication system design with SpaceX, Lockheed Martin, and IBM Engineers
- Coded initialization and transmission of pod data packets over TCP and UDP connections using Python to off-board servers
- Wrote linear actuator control code, temperature sensor code, and current/voltage sensor code in Arduino (C/C++)
- Initialized and maintained data flow between master and slave Arduinos using I2C communication, and communication between raspberry pi and Arduino Mega using UART
- Interfaced with VN-100 AHRS/IMU embedded device using python wrapper library to acquire yaw, pitch, roll, acceleration
- Implemented software and pod state changes using IMU/AHRS, timer, digital interrupts and pod did not transition into unwanted states as a result by thoroughly testing with generated input

Hand Tremor Stabilization Glove (3rd Place/ Bronze Award) **(Binghamton/Hong Kong, 2015 – 2018)**

- Prototyped a glove for use by those with Parkinsonian resting tremor to reduce hand tremor intensity
- Awarded 3rd place at Chinese University of Hong Kong's EMEDIC Global Biomedical Innovation Competition 2015
- Coded multithreaded tremor intensity detection script and actuated solenoid appropriately on a Raspberry Pi using Python
- Researched and discovered ways to detect tremors while filtering normal movements using measured jerk of accelerometer

iOS and Apple Watch Application Development: Pathos (Startup Co-Founder) **(Bronx/Binghamton, 2015 – 2017)**

- Developed iOS/Apple Watch app to dictate conversations and create name, occupation, and common interests contact card
- Dictated recorded audio and parsed JSON data from IBM Watson natural language processing REST API in Swift 3
- Implemented frontend of iOS and Apple Watch app using Interface Builder and handled user input and button in Swift 3
- Designed testing flow chart for testing accuracy of recorded results in draw.io, and used Test Flight for feedback

LEADERSHIP EXPERIENCE

Binghamton University Robotics Club, President/Cofounder **(Binghamton, 2016 - 2017)**

- Presented weekly robotics lessons with Arduino and lead BU Robotics Team in ASME maze navigation robotics competition