Mitch Gaines

linkedin.com/in/mitchgaines/

Email : jmgaines@wpi.edu

Mobile : (281) 236-0971

Education & Skills

- **Worcester Polytechnic Institute** — Worcester, MA
  Bachelor of Science Double Major - Computer Science & Robotics Engineering; GPA: 3.31/4.0 — *expected, May 2020*
- **Languages**: Java, Javascript, C/C++, MySQL, HTML5, Racket
- **Technologies**: Java RESTEasy, React, MongoDB, Node.js, AngularJS, Electron
- **Applications**: SolidWorks, Autodesk Inventor, Eagle, Adobe Creative Suite

Experience

- **Bakku Technologies** — Worcester, MA
  Engineer — *Jan 2018 - Present*
  - **Patent No. US 62629223 - Dynamic Pressure Sense, Alleviation and Redistribution**: Provisional patent-pending for a device which sits on top of wheelchairs as a seat cushion and prevents pressure ulcer formation on users.
  - **React-Native Application**: Developed mobile application in react-native which interfaces with hardware pressure ulcer prevention devices for use by principal investigators during clinical studies.
  - **Node.js & MongoDB Back-end**: Developed corresponding back-end for the aforementioned mobile application in Node.js with a MongoDB database.
  - **Electrical Engineering**: Designed and manufactured pressure sensitive cushion to identify specific areas of pressure in the x-y plane in an attempt to detect pressure ulcers.
- **Corista** — Concord, MA
  Software Engineering Intern — *May 2017 - Present*
  - **Patent No. US 15/730,296 - Virtual Slide Stage (VSS) Method For Viewing Whole Slide Images**: Provisional patent-pending for a hardware device which communicates with existing digital pathology environment in order to allow for navigation of a high-resolution virtual slide the same way a pathologist would navigate a slide under a microscope.
  - **Product Design & Development**: Designed and manufactured initial prototypes of Virtual Slide Stage device as defined in the above patent.
  - **Electron Application**: Led development of hybrid electron application based on existing portal environment to allow for native communication with computer serialport.
  - **DICOM**: Extended support of Pathology Workflow Environment to DICOM whole slide images according to Sup. 145 in back-end Java environment.
  - **Back-end Profiling & Optimization**: Profiled back-end image server for parsing and serving Whole Slide Images to the front-end. Migrated image server to asynchronous restful API and developed testing suite using Mockito to create a mock database connection as a part of ISO-13485 (Medical Device QMS) compliance.
- **East Coast Divers** — Brookline, MA
  Dive Technician Intern — *July 2018 - Present*
  - **Mechanical Systems**: Fixed gear related to SCUBA diving in recreational, commercial, and technical applications. This included systems under high pressure, requiring waterproof housing, and mixing of chemicals for breathing.

Projects

- **FES Hybrid Exoskeleton** — Worcester Polytechnic Institute
  Engineer — *April 2018 - Present*
  - **User Control System**: Developing user control mechanism for a robotic exoskeleton which uses electrical impulses into the muscles in order to actuate them for use by paraplegics.
- **Brigham & Women's Hospital Pathfinding Kiosk** — Worcester Polytechnic Institute
  Lead Software Engineer — *March 2018 - May 2018*
  - **Pathfinding Application**: Led a ten-person team in developing a pathfinding and service request kiosk for Brigham & Womens Hospital main campus using JavaFX.
- **Sailbot** — Worcester Polytechnic Institute
  Engineer — *January 2018 - May 2018*
  - **Rigid Wing-sail**: Designed, manufactured, and integrated the new sail system into the existing Sailbot platform for both hardware and software.