

Nathan A. Riojas

me@nathanriojas.com | nathanriojas.com

Summary Self-motivated engineer with a mechanical background seeking to transition to software engineering to pursue his passion

Education

Bachelor of Science, Mechanical Engineering **May 2016**

Computer Science Minor | Robotics Certificate

The University of Texas at Austin **GPA 3.55**

Related Courses: Software Programming and Data Structures, Mobile Computing, Data Visualization, Introduction to Programming with Python, Introduction to Computers and Programming Using C++, Vehicle System Dynamics and Controls, Dynamic Systems and Controls

Experience

03/17–Present **Quality Assurance Engineer, Codeware Inc.**

- Built GUI testing frameworks in Javascript for several dialogs of Codeware's Inspect software
- Upgraded existing testing scripts and frameworks to work with Inspect software updates
- Developed a simple frontend for a Django application to analyze nightly tests using Bootstrap
- Collaborated with software developers to correct bugs and improve user experience

06/16–03/17 **Equipment Engineer, NXP Semiconductors**

- Maintained and improved robotic equipment operation in the chemical mechanical polishing stage

02/15–01/16 **Research Assistant, Biomechanics Experimental Laboratory**

- Designed biaxial testing system to analyze heart tissue to aid in surgical repair of the mitral valve
- Minimized redesign changes using SolidWorks to incorporate load cells and actuators

05/15–10/15 **Research Assistant, REWIRE Laboratory**

- Fabricated a gait rehabilitation robot with considerations for smooth motion and tolerance
- Analyzed input/output robot velocity using MatLab's position differentiation capabilities

Computer Science Projects

01/16–5/16 **MMAxCalc Mobile Application, Mobile Computing Final Project**

- Developed UI/UX for an Android app in Android Studio that calculates user punching power
- Leveraged SDK for Javelin Device wearable to read accelerometer data via Bluetooth
- Created SQLite database to manage user profiles and access past data

09/15–12/15 **Visualization Projects Team Leader, Elements of Data Visualization Course**

- Retrieved Oracle database info to create visualizations in Tableau and R Studio
- Developed a simple interactive web app using Shiny R framework

Mechanical Engineering Projects

01/16–5/16 **Capstone Design Project Team Leader, Design of an Automated Wafer Handling System**

- Designed 3 DOF robot from composite actuator systems to meet accuracy goals less than 1 micron
- Developed automated accuracy tests using capacitance probes for each axis

01/16–05/16 **Modeling and Simulation of Vehicle Behavior, Vehicle System Dynamics and Controls**

- Derived mathematical models to be coded in Matlab to analyze vehicle slip, braking, and vibrations

09/15–12/15 **Robot Mechanism Team Design Project, Passive Prosthetic Finger Mechanism**

- Designed a passive prosthetic finger for an amputee using a dual four bar linkage mechanism
- Implemented simple Arduino open loop servo control to demonstrate prototype's motion path

Technical Skills

Proficient: Python, Javascript, HTML, CSS, Bootstrap, Matlab

Working knowledge: Java, XML, SQL, SQLite, Git, R, Android Development, AJAX

Limited Experience: C++, R, Django