**Nathan A. Riojas**

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**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