

Nathan A. Riojas

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Summary Highly motivated mechanical engineer passionate about continued learning and seeking to begin a role in software development to further enhance skills learned during computer science minor

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.**
- Upgraded TestComplete automation scripts in Javascript to continuously test developer changes
 - 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

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
- 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**
- Created and coded mathematical models 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
- 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 using ggplot
 - Developed a simple interactive web app using Shiny framework

Technical Skills

Proficient in Engineering Design, Python, HTML, CSS, MatLab, LabVIEW, R, Tableau, TestComplete; Experience machining; Basic knowledge of Git, Android, XML, SQLite, VIM, Ubuntu, Java, JavaScript, SQL, Shiny; Working knowledge of Spanish

Awards/Leadership

HSF Anheuser Busch Scholarship Recipient	University Honors Spring, Fall 2015
HSF ExxonMobil Scholarship Recipient	LeaderShape Texas Graduate
Theta Tau Kalv Scholarship Recipient	Brave the Shave Cancer Research Fundraiser Theta Tau Team Leader