

Nathan A. Riojas

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Summary Highly motivated engineer capable of leveraging knowledge to design systems across several fields and industries, able to lead cross-functional teams, and passionate about software programming

Education

Bachelor of Science, Mechanical Engineering **May 2016**
Computer Science Minor | Robotics Certificate

The University of Texas at Austin **GPA 3.55**
Related Courses: Dynamic Systems and Controls, Robot Mechanism Design, Vehicle System Dynamics and Controls, Engineering Design Methodology, Software Programming and Data Structures, Mechatronics, Heat Transfer, Fluid Mechanics, Solid Mechanics, Mobile Computing

Experience

- 06/16–Present **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
 - Machined parts to correct or improve existing assembly
 - Minimized redesign changes using SolidWorks to incorporate load cells and hardware
- 05/15–10/15 **Research Assistant, REWIRE Laboratory**
- Fabricated a gait rehabilitation robot with considerations for smooth motion and space efficiency
 - Created crankshaft mechanism using SolidWorks and engineered solutions to fit the robot
 - Analyzed input/output robot velocity using MatLab's position differentiation capabilities
- 01/14–08/14 **Maintenance/Reliability Engineer, The Dow Chemical Company**
- Conducted FMEAs in engineering teams for a compressor and steam turbine
 - Consolidated gauge change plans for plant converters to reduce costs by 75%

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**
- Worked to optimize in-line metrology process to minimize semiconductor manufacturing time
 - Designed 3 DOF robot from composite actuator systems to meet precision and accuracy goals
- 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
 - Utilized 3D printing to generate low resolution and alpha prototypes
- 09/15–12/15 **Visualization Projects Team Leader, Elements of Data Visualization Course**
- Rendered data from Oracle databases with visualizations created in R Studio and Tableau

Technical Skills

Proficient in Engineering Design, SolidWorks, Python, CAD, MatLab, LabVIEW, R, Tableau; *Experience* machining; *Basic knowledge of* C++, Ruby, HTML, XML, CSS, VBA, Multisim.; *Working knowledge of* Spanish

Awards/Leadership

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| 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 |