**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**

Elements of Computing Certificate (Computer Science Minor) **|** Robotics Certification

**The University of Texas at Austin**

***Related Courses:*** Design Methodology,Robot Mechanism Design, Dynamic Systems and Controls, Mechatronics, Solids Mechanics, Materials Engineering, Heat Transfer, Thermodynamics, Fluid Mechanics, Data Structures, Mobile Computing, Vehicle System Dynamics and Controls

**Experience**

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

* Improved design features (weight, function) for biaxial heart tissue testing system
* Machined parts to correct or improve existing assembly
* Researched load cells and load cell interfaces to use in uniaxial tissue testing system
* Minimized redesign changes using SolidWorks to incorporate load cells and hardware

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

* Fabricated a 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 gauze change plans for plant converters to reduce costs by 75%
* Performed weekly inspections on fixed and rotating equipment

**Projects/ Labs**

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

* Worked to optimize in-line metrology process to minimize semiconductor manufacturing time

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
* Integrated and programmed simple Arduino controls for demonstration purposes

09/15–12/15 **Visualization Projects Team Leader (R|Tableau|Shiny), Elements of Data Visualization Course**

* Organized project timelines and delegated responsibilities according to each members’ skills

06/15–08/15 **Dynamics Systems and Controls Lab**

* Modeled and simulated engineering systems using LabVIEW and myDAQ technology
* Measured system parameters using various sensors (accelerometer, pressure, potentiometer)

08/13–12/13 **Mechatronics Lab**

* Created circuits for mechatronic systems (hand dryer, street light, vending machine)

**Technical Skills**

*Proficient* in Engineering Design, SolidWorks, Python, C++, MatLab, LabVIEW, R, RStudio, Shiny, Tableau; *Experience* machining; *Basic knowledge* of Sensor data acquisition, Ubuntu, HTML, JavaScript, SQL, Oracle Multisim, myDAQ, SAP; *Working knowledge* of Spanish; *Currently learning* (independently): Web Development, ROS, Arduino Microcontrollers

**Awards /Leadership/Extracurricular**

HSF Anheuser Busch *S*cholarship Recipient

HSF ExxonMobil Scholarship Recipient

Theta Tau KalvScholarship Recipient

University Honors Spring, Fall 2015

LeaderShape Texas Graduate

Tutor – Mechatronics

Grader – Dynamics Systems and Controls Spring 2016

Team Leader– Brave the Shave Cancer Research Fundraiser

Professional Development Committee Head – Theta Tau

Member– KTE (Co-op Honor Society)