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 **GPA 3.55**
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
- Designed 3 DOF robot from composite actuator systems to meet precision and accuracy goals

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)

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 Scholarship Recipient
HSF ExxonMobil Scholarship Recipient
Theta Tau Kalv Scholarship 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)