

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 gauge 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 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)