

AUTOMATION ENGINEER

A driven, broadly talented mechanical engineer with over 5 years of experience in control systems, automation, testing, safety, and programming. Self-directed and always learning. Experienced in:

Automation System Design	Mechanical Engineering	Sensor Selection and Implementation	Programming and Controls	Safety System Design	National Instruments Hardware & LabVIEW
--------------------------	------------------------	-------------------------------------	--------------------------	----------------------	---

PROFESSIONAL EXPERIENCE

General Electric Oil & Gas, Houston, TX**2010-2017****Lead Automation Engineer, GE Advanced Technology Organization Lab (2012 – 2017)**

A prototype testing lab specializing in pressure, load, and temperature tests for new oil & gas equipment designs.

- Designed and implemented testing systems including: hydraulics, pneumatics, electronics, control software, user interface, connectivity to automate dozens of qualification tests, saving hundreds of man hours.
- Used LabVIEW with Compact RIO to automate testing with feedback-based control and data acquisition and earned LabVIEW Certified Developer certification.
- Identified issues with existing lab processes and designed and implemented new systems including test request workflow, warehouse parts database, and sensor calibration database. These databases increased traceability of parts and sensor data, and the workflow handled over 500 test requests for the lab.
- Developed novel leak detection system software to measure volume of leaked gas automatically, enabling automated overnight testing, doubling testing speed, and increasing leakage measurement accuracy.
- Advised technicians with technical aspects of testing throughout lab. Held LabVIEW trainings for partner labs and mentored several young engineers in lab processes and automation systems.
- Performed design verification calculations to ensure test readiness and safety of test fixtures/setups.

Edison Engineer, GE Edison Engineering Program (2010 – 2012)

An intensive two-year engineering and leadership program with three rotational assignments within GE, technical and leadership training, and coursework towards a Master of Mechanical Engineering degree.

- **Greenbelt Project** - Led project and performed gauge capability and grinding experiments to improve Brinell hardness testing using Six Sigma, resulting in global adoption of new hardness reading methods.
- **Materials and Process Engineering** - Led a material testing program for a new coating and cladding process including managing external testing and conducting hands-on material performance tests in-house.
- **Subsea Production Systems** - Designed and performed analysis and design calculations on test fixtures for prototype testing of subsea choke components.

Magic Kingdom Park, Professional Engineering Intern, Lake Buena Vista, FL**2008**

- Designed and implemented equipment labeling system which reduced equipment failure downtimes by 50%.
- Reviewed and updated technical drawings using AutoCAD.
- Developed written processes for attraction maintenance through collaboration with technicians, turning tribal knowledge into documented procedures.

TECHNICAL SKILLS AND EXPERTISE

Engineering: Automation & Controls, Safety, Electrical Design, Hydraulics, Pneumatics, Heat Transfer, Structures, Mechanics of Materials, Fatigue of Materials, Fracture Mechanics, Six Sigma Greenbelt

Programming: LabVIEW (Certified Developer), Arduino (expert), MATLAB (experienced), Python (learning), HTML/CSS/JS (learning), SQL (learning), Node.js (learning), Express (learning)

Tools: Pro/Engineer Wildfire, Solidworks, AutoCAD, Mathcad, LabVIEW, Git, SVN, Photoshop, Unity

OTHER RELEVANT EXPERIENCE

- The Sleep Sensei**, getsleepsensei.com, *Creator*, 2015 2015
- Launched a successful Kickstarter campaign for an Arduino-based device to help users fall asleep faster.
 - Designed and produced device: microprocessor programming, electrical circuit design, mechanical design, sourcing, manufacturing, and testing. Received positive feedback from users.
- UF Integrated Product and Process Design**, Gainesville, FL, *Student* 2009-2010
- Designed and built a computer vision-based system to monitor tool wear in a CNC lathe.
 - Led mechanical team in a multidisciplinary student group collaborating on a project for General Dynamics.
- UF Comparative Orthopaedics and Biomechanics Lab**, Gainesville, FL, *Research Assistant* 2009-2010
- Translated surgeon's needs into mechanical experiments for testing of experimental surgeries.
 - Designed and fabricated fixtures to fit odd-shaped biological specimens onto mechanical testing machine.
- UF Laboratory for the Dynamic Testing of Materials**, Gainesville, FL, *Research Assistant* 2008
- Prepared test samples of materials, performed quasi-static and dynamic tests, analyzed data with MATLAB.

EDUCATION

- Georgia Institute of Technology, Atlanta, GA
Master of Science in Mechanical Engineering
- University of Florida, Gainesville, FL
Bachelor of Science in Mechanical Engineering, Minor in Biomechanics

TRAINING AND PRACTICAL COURSEWORK

- GE Edison Program Training**, GE Oil & Gas, Houston, TX
- Training modules focused on engineering skills, interpersonal skills, and leadership.
- National Instruments LabVIEW and cRIO**
- **Training:** LabVIEW Core 1, Core 2, Core 3, Real-Time 1, Real-Time 2
 - **Certification:** Certified LabVIEW Developer (CLD)
- Design and Manufacturing Lab**, University of Florida, Fall 2007
- Designed a radio-controlled robot for competition in a team using hand-drawn and CAD design techniques.
 - Built robot which successfully completed competition task of sorting golf balls from tennis balls.
- Instrumentation and Measurements Lab**, University of Florida, Spring 2008
- Gathered data with LabVIEW on changes in various materials using various sensors
 - Applied concepts of clipping, aliasing, and resolution, and wrote programs to filter and manipulate data.

HONORS AND AWARDS

- GE Above and Beyond Rewards**, 2010 - 2017
- Received 16 official commendations from peers for above and beyond performance.
- University of Florida Dean's List**, Fall 2006, Spring and Fall 2007, Spring 2008, Spring 2009
- Florida Academic Scholar**, 2006 - 2009
- National AP Scholar**, 2006
- Pi Tau Sigma**, 2009 - 2010

PERSONAL

- Hobby Projects:** Memory game alarm clock, Theremin-like ultrasonic instrument, alarm-synchronized automated curtains, Arduino pong game, IoT temperature logger, Virtual reality demolition game, laser-cut designs, automated long-term time-lapse photography, "cardboard combat bots" competitor.
- Interests:** Hiking, Camping, Astronomy, Maker Culture, Burning Man, Video Games, Board Games