Riley Kenyon

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EDUCATION

BS/MS Mechanical Engineering, University of Colorado Boulder May 2020
GPA: 3.85/4.0

Honors/Awards: Engineering Dean's List, Engineering Differential Scholarship, Chevron Scholarship
Certificates: NVIDIA - Fundamentals of Accelerated Computing with CUDA C/C++

ENGINEERING EXPERIENCE

Siemens Gamesa Renewable Energy, Engineering Project Support – *Blade Inspection Camera* May 2019 – Present

- Improved performance of blade inspection camera with smart recognition using OpenCV to classify blade tips using histogram peak detection in the HSV color space to track area center by visual servoing
- Created command line interface to initiate inspection processes with a variety of parameters including debug log, image archiving, and creating metadata spreadsheet for post-processing
- Enhanced the concept of operation and created business case to market viability of remote inspection method

Electro-Mechanical Products, Manufacturing Intern - *Coherent Pressure Test Unit* May 2018 – Aug 2018

- Redesigned and fabricated a new pressure drop machine for determining faulty parts with clogged tubing
- Collected experimental data related to pressure differences and compared it to a Bernoulli derived model
- Implemented solenoid valves to automate wash, rinse, and dry cycle actuation using MOSFETs
- Amplified signal from differential pressure transducer and thermocouple probe to be read by microcontroller
- Programmed microcontroller using *Arduino IDE* to display outputs, open valves, toggle relays, and read signals

RELEVANT PROJECTS

Animal Care Systems, Senior Design Project (Test Engineer) - *Mechanized Cage Monitoring Kit* Aug 2018 – May 2019

- Designing remotely accessible live-feed mice monitoring system for overnight viewing of laboratory setting
- Implementing animal comfort standards for vibration, noise, and light emitting components
- Automating smooth rotation of carousel with stepper motor micro-stepping and rotational tracking via encoder
- Creating GUI for remote control of motor and IR cameras utilizing an Apache server hosted on Raspberry Pi
- Developing and executing test procedures to verify operational requirements and satisfy design specifications

Independent Study – *Optimized Game Automation with GPU* Jan 2019 – May 2019

- Automating solenoid actuation to register pressure on touchscreen for the mobile game "Piano Tiles"
- Utilizing accelerated parallel processing on GPU with CUDA to process video frames
- Applying computer vision feedback to a physical output, exceeding average human response time
- Documenting procedures and learning objectives for the NVIDIA TX2 with *LaTeX* reports

RELEVANT COURSEWORK

Industrial Automation Jan 2019 – May 2019

- Learning real-time input output with *LabVIEW* on the NI myRIO
- Using feedback control and proportional gain controllers to improve system performance of circuits
- Utilizing Nyquist plots, root locus, and additional control techniques to understand robustness
- Reinforcing concepts of Bode plots, frequency response functions, and system identification methods

LEADERSHIP

Teaching Assistant, System Dynamics Jan 2019 – May 2019

- Providing guidance and troubleshooting when utilizing oscilloscopes, *MATLAB,* and *Simulink*
- Assisting students in their understanding of system identification, feedback loops, characteristic equations, and performance metrics through laboratory-based learning

SOFTWARE/TECHNICAL SKILLS

- Proficient with *Arduino, Bash, C, CUDA, EES, LabVIEW, LaTeX, MATLAB, Microsoft Office, OpenCV, Python, Simulink, SolidWorks*
- Experience with *DraftSight, Fusion360, HTML, JavaScript(jQuery,AJAX), PHP*