Alhusam Al Harthy

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SUMMARY

- Senior in Electrical and Computer Engineering minoring in computer science. GPA: 3.5
- Engineering experience in power and substation design for the Oil and Gas industry.
- Coursework in Power System design and analysis.

EDUCATION

Bachelor of Science in Electrical and computer engineering
Oregon State University, Corvallis OR
GPA: 3.5 Dean's list – six quarters   August 2020

RELEVANT COURSEWORK
Power System Protection, Power Electronics, Power System Analysis, Systems Dynamics and Control, Electronics, Electromechanical Energy Conversion, Smart Grid, Electrical Circuit Analysis.

ENGINEERING EXPERIENCE

Power Engineering Internship, Occidental Oil and Energy, Houston TX   June - August 2019

- Designed a single line diagram for a 33kV substation to power critical loads like server cooling systems. The main scheme was to provide an uninterrupted power supply, utilizing the two 13.6 MW generators available to power the bus. The System design uses two ATCs to change from primary source to backup.
- Accompanied senior engineers and technicians during preventative maintenance for high voltage equipment. Equipment includes: substation switchgear, Isolation HV Circuit Breaker, Induction Motors, and Uninterruptable Power Supply (UPS).
- Analyzed Heat tracing Systems installed on oil production pipes; redesigned the Heat tracing System by changing the heat tracing cable to increase the circuit length and minimize the number of junction boxes, local switches, and thermostats. This system required upsizing the branch breaker from 32A to 40A to account for the wire size.
- Troubleshoot and diagnose faulty Distribution boards (DB) for well pumps. Provide a mitigation plan for faulty DB's to prevent similar issues from happening again.

PROJECTS

Senior Project   September 2019- May 2020

- Design and construct a solar tracking system with automatic tracking of the sun with two other engineers.
- Create a user friendly Human Machine Interface to communicate with the end user, design a PCB to house the control system for the automated solar tracker, Implement a code to interface between the solar panel and the mounting system. Perform engineering design calculations to properly size the system to meet the load demands and the safety requirements.
- Write a proposal for funding to fund the project. This entails creating timelines, bill of materials and a list of tasks for various team members.

Technical Projects
Sensor Calibration with MATLAB

- Used MATLAB to display raw and calibrated data for a thermistor and displayed the resistance of an attached photocell. Data sent from microcontroller to MATLAB to displayed in real time on a single graph with multiple Y axis.

PC Controlled DC Power Supply

- Built an adjustable power supply able to supply voltages from 2-14V for 21W loads. The device displays the voltage and current to a local display, and programmable over a USB serial port and a touch screen.

SKILLS

Programming: C++, C, Matlab.
Simulation & design: PowerWord, Atmel Studio, LTspice, AutoCAD, SolidWorks.
Safety: First Aid certification, CPR certification, gas tasting, fire fighter.

ADDITIONAL EXPERIENCE

OSU Electronics Store   September2018 – June 2019

- Engage in day to day conversations with customers and students. Ensure good customer service for all customers.

Indoor Climbing Center   September 2018- present

- Teach climbing classes, Setting climbing routes in different difficulties, prevent risky activities and make sure students are safe during climbing.