Liam Cassell

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Software Engineer

Proactive and highly knowledgeable electrical and software engineer with significant hardware and software development experience; exceptional ability to troubleshoot issues, evaluate project needs and scope, develop practical solutions to problems, effectively communicate complex technical ideas, and success working in a remote collaborative team.

Technical Skills

Programming Languages: Python, HTML, CSS, C++, C, MIPS Assembly, Ladder Logic for PLC's, and Visual Basic for Applications (VBA for Microsoft Excel)

Frameworks: Django, Bootstrap

Technical Skills: Code Testing, GIT Version Control, Unix Commands, Printed Circuit Board (PCB) design, Electrical and Radio Frequency Signal Analysis (RF, digital, and analog signals), Microprocessor programing and system design, soldering, hardware troubleshooting, and Programmable Logic Controller (PLC) and Human Machine Interface (HMI) programming

Education

Bachelor of Science, Electrical Engineering | University of Alaska Fairbanks, Fairbanks, AK | December 2019

Academic Grants and Projects

Alaska Space Grant | May 2015 to April 2016
University of Alaska Fairbanks, Fairbanks, AK

Designed the electrical motor control system for the DSC (Deployment System Control) for the Cube Satellite mission DARS (Deployable Alaska Research Sail).

- Circuit and PCB design of the control system for the deployment of a Solar Sail housed in a Cube Satellite
- Utilized a MSP430 (Microprocessor) as the logic controller for the motor control system, programmed in C

Undergraduate Research and Scholarly Achievement (URSA) Grant | Summer 2018
University of Alaska Fairbanks, Fairbanks, AK

Independent research project focused on an Arduino-based system to autonomously calculate Leaf Area Index (LAI) for plants.

- Designed, assembled, programmed, and tested electrical circuits for LAI finding system

Professional Experience

Telecommunication Engineer | January 2022 to Present
NORTH SLOPE TELECOM, INC., SLC, UT (REMOTE)

Worked on construction driven telecommunication projects for customers in the oil and gas industry. Managed and partook in the engineering of critical communication networks and localized power distribution systems in a newly developing Alaskan Oil Field. Lead telecom designer on a 2.4-million-dollar telecommunication module which was designated as the main data center for the project. Worked with the PE, a team of drafters, and supporting engineers to facilitate designs to the customers specifications. All while making sure to adhere to the National Electrical Code (NEC) and Building Industry Consulting Service International (BICSI) Telecom/IT standards.

- Helped facilitate the design of pivotal microwave and Fiber Optic site-wide backbone network
- Met project driven deadlines putting parts and material lists together for intricate systems as required to match the customers desired design and budget
- Performed complex calculations on the following topics: UPS power sizing and run time, Cable conductor sizing and loading, and Network and Telecom rack equipment temperature dissipation and loading

Telecommunication Technician III | February 2021 to January 2022
NORTH SLOPE TELECOM, INC., Anchorage, AK

Manage, design, coordinate, and install smaller industrial construction projects for diverse customers, including villages, government agencies, and large international oil companies within the Arctic of Alaska and serve as contractor for larger telecommunication companies. Regularly problem-solve; troubleshoot; assess options; and develop specifications, building material and labor needs, and overall budgets to create accurate bids for such assignments as mobile shelter antenna mounts and cable tray layouts for cable installation between different server racks in a high security server environment.

- Utilized knowledge of Fiber Optic connections and splicing to bolster customers Fiber Optic networks
- Troubleshoot network issues for radios, switches, and routers on radio network; deliver immediate solutions to ensure full operation and meet customers' needs

Field Technician (Temporary) | May 2020 to February 2021
ENSTAR NATURAL GAS, Anchorage, AK

Configured wireless routers and radio equipment to expand/upgrade company's remote telemetry network. Installed and troubleshot 4-20 mA loop measurement equipment and PLC control panels. Performed preventative maintenance on remote network, control, and Supervisory Control and Data Acquisition (SCADA) equipment to insure safe, timely, and efficient delivery of natural gas to customers.

- Programmed DL06 PLCs to provide remote site status to company's Cygnet based HMI/SCADA interface
- Routinely used Command Prompt and Putty interfaces to troubleshoot issues with network and controls equipment to ensure ENSTAR natural gas facilities were operating correctly and delivering expected service to household and business customers

Engineering Internships & Additional Experience

Electrical Utility Intern | May 2019 to August 2019
ALASKA VILLAGE ELECTRIC CO-OP (AVEC), Anchorage, AK

- Programmed MAPLE System HMI to display pressure and temperature data read from a PLC, allowing effective system moderation by power plant operators

Student Engineering Intern | June 2017 to August 2017
SIEMENS BUILDING AND TECHNOLOGY DIVISION, Fairbanks, AK

- Worked independently with large university to make modifications on multi-million-dollar lighting retrofit project
- Updated as-built within Excel to reflect changes and utilized VBA to prepare data for university's database