Dharun Pazhanivel

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SKILLS SUMMARY

- **Languages** : **Python** , C++, Embedded C, **Ladder Logic**
- **Tools** : **AutoCAD**, MATLAB, **ETAP**, RS Logix 5000, **FactoryTalk View** (FT view), MPLAB X
- **Skills** : **PVsyst**, **Helioscope**, **PSEE**, JIRA, **Agile**, Modbus, ControlNet, **SCADA, NEC**

EXPERIENCE

Renewable Engineer, Eagle Creek Renewable Energy, NC, USA **May 2022 - Dec 2022**

- Managed Dissolved Oxygen automation project for **110 MW** Narrows Hydroelectric Power Plant devising annual savings of **$150K** increasing total efficiency by **2%** deploying a **ControlLogix** PLC system
- Proposed an RFP, outlined budget, planned milestones, **sized equipment**, and oversaw hardware fabrication, and quality control on project delivery
- Devised Ladder logic using Studio 5000 to control the Dissolved Oxygen levels and created **HMI design** with FT View to monitor and control on the existing **SCADA** system
- Designed **electrical** and **controls drawings** using **AutoCAD** in accordance with the **NEC** for the project
- Assisted in comparing bids and Helio reports from EPC contractors for Tuckertown Hydro-PV hybrid project

Network Engineer, Datafoundry Private Limited, Coimbatore, India **Mar 2021 - Aug 2021**

- Designed initial hardware and implemented the POC of the ARCA SDWAN router and assisted in configuring, deploying and troubleshooting MWAN load balancing, MPTCP and firewall of routers
- Articulated complex information to all **stakeholders** through **weekly progress reports** and facilitated **product revisions** using feedback

Industrial Automation Intern, JRM Technologies, Coimbatore, India **May 2020 - Aug 2020**

- Strategized design of IoT based smart energy management solutions, integrating Delta PLC, EAPL Smart Energy Meters, Siemens SIMATIC IoT gateway, and Cloud
- Oversaw and optimized the fabrication of the PCB to reduce the cycle time by 20%
- Collected field level data such as rotational speed, operating time and energy to cloud using Modbus TCP protocol via RS485 interface
- Used data to optimize and reduce energy usage by 10% and determined maintenance window for machines

EDUCATION

Northeastern University**,** Boston, MA **Sep 2021 - Dec 2023**

Master of Science in Energy Systems (Key Coursework : **AI** in **Energy** Systems , Financial Management for Engineers, **Smart Grid**, Electrochemical **Energy Storage**)

PSG Institute of Technology and Applied Research**,** India **Jun 2017 - Jun 2021**

Bachelor of Engineering in Electrical and Electronics Engineering (Key coursework: Product Design and Development, **Transmission** and **Distribution**, Protection and **Switchgear**, **Power System Analysis**)

PROJECTS

1.5 MW Solar and Battery Storage Design *(Northeastern University)* **Jan 2023 - Apr 2023**

- Delivered an optimized behind the meter design, planned procurement for a solar and battery storage system
- Selected system components and performed string size, tilt and **spacing** calculations, DC and AC **cable sizing**, and **structural analysis** for multiple roof top solar arrays ranging from 50 kW to 150 kW
- Created **single line diagrams**, AC coupled battery connection and conduit run diagrams on **AutoCAD**

Modeling of a 500 kW Transportable Energy Storage Container **Jan 2022 - Apr 2022**

- Analyzed suitability of various battery chemistries based on capital cost, footprint, life and efficiency for a utility scale transportable battery system
- Surveyed vendors, outlined installation and maintenance requirements to maximize flexibility and scalability
- Built a simplified model to simulate behavior of system via **Simulink**, subjecting system to multiple routes and load changes