PARTH JOGI

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Enthusiastic graduate student in Energy Systems with a passion for renewable energy systems, and hands-on experience working on patented technology in battery recycling. Detail-oriented, quick learner with strong analytical skills. Seeking full-time positions in solar photovoltaics and battery storage technologies.

EDUCATION

Master of Science in Energy System, Northeastern University, Boston — **May 2019**
Electric Industry Operations and Markets Certification, Duke University — **March 2019**
Green Belt Equivalent in Lean Concepts, LAI Lean Academy, Northeastern University — **December 2018**
BE in Chemical Engineering, University of Mumbai, India — **June 2016**

ACADEMIC PROJECTS

Northeastern (NU) Solar - Conceptualized and designed a roof-top PV system for 6 buildings at NU Campus. Performed technical performance analysis using Helioscope. Visited site for area calculations and shading analysis. Estimated full EPC cost via detailed development matrix and financial analysis. Researched and analyzed electric market data to categorize peak demand charges. Techniques and Tools: PV Syst, Helioscope, SAM, PV Watts, MS Excel(Goal Seek, Data Table)

Puerto Rico PV System – Responsible for developing a 150kW system with battery storage to shave off the peak demand and minimize PREPA electricity usage. Analyzed customer load data to measure PV calculations. Performed iterations with different type of batteries to optimize design and reduce costs.

Crescent Group Solar Project - Studied the case study to understand PPA and EPC contracts, developer and lender's point of view negotiations, and partnership flip Tax Equity structures. Developed a discounted cash flow (DCF) financial model based on the PPA contract to represent the performance of the project and determined levered and unlevered IRR and payback period.

Norwood MBTA Parking - Estimated tilt, azimuth angle of solar panels, height & location of columns of solar canopies. Boosted energy production by 14% by suggesting improvements for design and area utilization.

Sustainable Energy Future for Nigeria's Energy Crisis - Proposed a 5 MW photovoltaic system over a 30-acre land and performed simulation and financial modeling to install 100% clean, renewable hybrid energy system.

Carbon Footprint Calculator - Evaluated changes required to lessen carbon emissions in the United States by 10% over a 10-year period. Decreased 35% of CO_2 emissions from food sources by engineering an optimized calorie intake model.

Power Generation for Eco-District - Performed financial modeling with depreciation to identify Solar PV as best energy source and accelerated profits by 60%. Developed cash flow models to estimate revenue, fixed costs, O&M costs, profitability, payback period and ROI. Examined the accuracy and performance of model using Sensitivity Analysis with +/-25% error estimation.
Techniques and Tools: PVWatts, SAM, MIRR, MS Excel

PROFESSIONAL EXPERIENCE

Chemical Engineering Intern, Battery Resourcers, Worcester, MA — **January-August 2018**

- **Increased lithium efficiency** by **up to 23%** by successfully experimenting with newer chemical combinations.
- **Achieved 40% reduction** in battery discharge time by examining experimental data to attain best alternative process.
- **Maintained 100% productivity** for equipment by performing detail-oriented data analysis and troubleshooting.
- **Minimized costs by $10,000** by evaluating efficient methods for removing copper from nickel electrolyte solution.
- Researched battery recycling processes to identify bottlenecks and improve key process parameters.
- Devised SOPs for operation and maintenance of unit operations to achieve efficiency, performance consistency, reduce miscommunication and create a safe working environment.

Environmental Engineering Intern, AquaChem Enviro Engineers, Mumbai, India — **July 2017**

- Played a lead role in setting up an Effluent Treatment Plant (ETP) on-site and **reduced costs by $5000.**
- Identified optimal values for the parameters of fluid velocity and pressure to **enhance the output quality by 6%.**
- Designed and implemented novel methods for customizing process equipment and **minimized 31% of the required effort**.

SKILLS

Programming Languages and Toolkits: Python, MySQL, HOMER, PV Syst, Helioscope, PVWatts, System Advisor Model (SAM)
Applications: AutoCAD, Microsoft Office (Excel, Project, Word, PowerPoint), SolidWorks, Energy Analysis, Financial Modeling
Lean Tools: Lean Six Sigma (6-S), Root Cause Analysis, Value Stream Mapping, Statistical Process Control, Kaizen, PFMEA

CORE COMPETENCIES

Solar Design	Financial Modeling	Economic Analysis	Project Development
Energy Efficiency	Demand Energy Management	Data Analysis	Process Engineering