Mina Farag

Cupertino, CA
-Email me on Indeed: http://www.indeed.com/r/Mina-Farag/808a9fecdc48ff62

Renewable energy engineer with more than 10 years of extensive experience and expertise in managing various renewable energy technologies such as PV system integration, Lithium Ion batteries, fuel cells. Proven expertise in:

- PV system integration and Design
- Python for Data Science
- Process Tracking and Performance

Work Experience

Renewable Energy Engineer

Cupertino, CA
May 2018 to Present

Provided consultation for PV system integration, Lithium Ion batteries, fuel cells (SOFC, PEM, DMFC) and Electrochromic Window (ECW) technologies including cell design, material qualification, and reliability, field and performance testing.

Senior Polymer Device Engineer

Heliotrope Technologies - Alameda, CA
May 2018 to November 2018

Managed the development and implementation of electrolyte materials, electrochemistry and electrochemical devices. Cooperated with stakeholders to ensure the completion of prototype line qualification of high-performance Electrochromic Window (ECW) devices. Performed research and analysis to compile the reports for identifying and addressing the problems.
Key Contributions:
* Contributed in a key project to achieve device stability of 10% by successfully designing novel functional polymeric chemistries and matrices to meet durability performance target.
* Improved and scaled up of polymer electrolyte synthesis processes to support product development.

Staff Engineer

Bloom Energy - Sunnyvale, CA
August 2010 to April 2017

Oversaw the responsibility for establishing mechanical and chemical dimension and cell design details for successfully meeting the application requirements.
Orchestrated and implemented strategies for developing Solid Oxide Fuel Cell designs from conception through to completion. Collaborated with stakeholders to ensure the completion of high-value projects with in stringent deadlines and budgets. Performed research and analysis to compile the reports for identifying and addressing the problems. Coordinated with external vendors and contractors to develop and qualify SOFC designs for consumer applications.
Efficiently developed Solid Oxide Fuel Cell by using mathematical modeling techniques. Gained extensive knowledge of applicable test equipment and test procedures.

Key Contributions:
* Achieved chemical stability of 20% by successfully designing novel electrolyte, electrode, ceramic, and glass materials through engineering the chemical composition and microstructure.
* Improved performance of fuel cells by 35% through development of performance specifications for cell design and establishing electrochemical dimensions.
* Increased cell strength by 50% by devising DOE for cell process parameters and stack level testing while correlating performance output responses through statistical data analysis.

Application Engineer

Intematix Corp - Fremont, CA
March 2005 to July 2008

Spearheaded the development of advanced lithium ion batteries through incorporating nano- material design and development including, process tracking, and performance.
Ensured compliance with process requirements, maximum efficiency and quality, safety & health regulations. Conducted failure analysis of Solar cells during new product development, reliability testing, and field failures. Designed and implemented specifications for charging parameters to meet cycle life, charging time, and storage life. Worked in collaboration with cross-functional teams to develop Direct Methanol Fuel Cell (DMFC) and Li-ion cells for consumer electronics applications. Championed process development with a view to improving quality and reducing environmental impact while improving safety.
Key Contributions:
* Designed novel catalyst alloys for a direct methanol fuel cell (DMFC) and components by employing combinatorial approach to catalyst alloy systems.
* Earned recognition from senior management for increasing the fuel cell efficiency by up to
90% and electrode performance by about 30% whilst reducing the cost by up to 50%.
* Successfully managed all aspects of the fuel cell project, including electrode fabrication/ design, catalyst development, electrochemical characterization, and interaction with customers.

Education

Master of Science in Materials Science

Columbia University - New York, NY

Bachelor of Science in Chemistry

Cairo University

Master of Business Administration in Business Administration

American Tech and Management University

Skills

- Python