Rafi Indrajaya

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SKILLS

Skills: Renewable Energies & Storage (PV, Geothermal, BESS), Energy Markets, Project Management, Data Analytics
Tools: Python (Pandas, Pyomo, Plotly, Scikit-learn), SQL, R, MATLAB/Simulink, Power BI, Excel, Tableau
Certifications: Python Machine Learning (Anaconda), Power BI Data Analyst (Microsoft), SQL Essentials (LinkedIn)
Languages: English (Fluent/IELTS 8.0), German (B2), Japanese (Intermediate/N3), French (A2), Indonesian (Native)

EXPERIENCE

Bosch | *Solid Oxide Fuel Cell (SOFC) Project Business Analyst Intern* *Tokyo, Japan* | **10.2023 – 03.2024**
- Led a waste-to-power SOFC project, showcasing 572 kW power potential and 4,500t CO_2 reduction annually.
- Developed an interactive map of Japan's gas network for strategic SOFC deployment planning (Excel, Folium).
- Analyzed large Excel datasets (80+ gas suppliers, 200+ cities), defining 5 potential suppliers and 15 target markets.
- Revealed 80% operational cost savings by assessing the financial performances of natural gas and biogas-fed SOFC.

Medco Power Indonesia | *Renewable Energy Engineer Intern* *Jakarta, Indonesia* | **03.2023 – 04.2023**
- Achieved a 25% increase in cost efficiency by redesigning the layout of a multi-million dollar PV project.
- Demonstrated up to 20% higher theoretical yield and reduced LCOE over project lifetime using Bifacial PV systems.
- Shortlisted 5 of 20+ global electrolyzer manufacturers to maximize technical fit for a PV-hydrogen plant.

Daimler Trucks Asia | *Quality Management (QM) Intern* *Kanagawa, Japan* | **02.2022 – 08.2022**
- Co-developed a QR-based QM GUI, simplifying cross-functional data access and cutting quality check time by half.
- Executed SQL-driven employee-survey data analysis; derived actionable insights to enhance workplace efficiency.
- Spearheaded the software creation of "Seat Booking System", automating pandemic-period office management.

PROJECTS

Geothermal Potential Analysis in Taiwan [Link] | *Skills: Python, CoolProp, Excel, Thermodynamics*
- Modelled and discovered up to 197 GWh/year (Single-Flash) and 74.6 GWh/year (Binary) geothermal generation potential, offsetting 255,000+ tons CO_2 annually for Taiwan's Datun region

A Residential Microgrid Optimization and Sizing [Link] | *Skills: Pyomo, Gurobi, Pandas, Microgrid Optimization*
- Engineered a MILP optimization algorithm to size and dispatch PV, battery, EV charging, grid, and diesel systems.
- Achieved a 42% reduction in annualized total cost and achieved EV charging target at each connection time.

EDUCATION

Politecnico Di Torino (2nd Year DENSYS) | *MSc in Energy and Nuclear Engineering* *Turin, Italy* | **09.2025 – Present**
- DENSYS Key Focus: Renewable Energy & Storage, Energy Management & Control, Power System Digitalization.

Université de Lorraine (1st Year DENSYS) | *Master Energie Parcours* *Nancy, France* | **09.2024 – 07.2025**
- Erasmus Mundus Joint Master's Degree in Decentralized Smart Energy System (DENSYS); GPA: 4.00/4.00.

Sophia University 上智大学 | *Bachelor of Science, Green Engineering* *Tokyo, Japan* | **09.2020 – 09.2024**

Selected Short International Programs: Python & Machine Learning Bootcamp – Liège, Belgium (12/2024)