Rafi Indrajaya

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EXECUTIVE SUMMARY

Master's student in the **Erasmus Mundus Decentralized Smart Energy System (DENSYS)** program, specializing in **clean energy** systems. Experienced in **energy modelling** and **power sector innovation**, striving to establish a smooth green transition without compromising profitability and supply integrity for an innovative and sustainable energy future.

EDUCATION

Politecnico Di Torino (2nd Year DENSYS) | *MSc in Energy and Nuclear Engineering* *Turin, Italy* | **09.2025 – 01.2026**
- **Key Courses**: Polygeneration and Advanced Energy Systems, Smart Electricity Systems, Resources Sustainability.

Esade Business School | *Strategy and Innovation Summer School* *Barcelona, Spain* | **07.2025 – 07.2025**
- Training on **business model canvas** utilization, AI incorporation for sustainable growth, and **strategic management**.

School of Mines | *RD20 Summer School* *Colorado, USA* | **06.2025 – 06.2025**
- Selected as the DENSYS program representative at the G20 Green Transition Summer School.

University of Lorraine (1st Year DENSYS) | *Master Energie Parcours* *Nancy, France* | **08.2024 – 07.2025**
- **Key Courses**: Renewable Energy Sources, Energy Storage, Python for Energy Systems; **Grade: 4.00/4.00**.

Sophia University 上智大学 | *Bachelor of Science, Green Engineering* *Tokyo, Japan* | **09.2020 – 09.2024**
- Sophia Overseas Designated School **Full-ride Scholarship Awardee**.
- Graduated in the **top 5%** of the green engineering cohort.

Kantonsschule Hohe Promenade | *AFS Exchange Program* *Zurich, Switzerland* | **08.2018 – 07.2019**
- Chosen as one of **16 out of 900 applicants** for the AFS Intercultural Exchange Program from Jakarta, which promotes cultural and academic exchange to foster global citizenship and cross-cultural understanding.

EXPERIENCE

Bosch | *Solid Oxide Fuel Cell (SOFC) Project Business Analyst Intern* *Tokyo, Japan* | **10.2023 – 03.2024**
- Conducted **market research** with the **global Bosch SOFC team** on business implementation across **Japan, the EU, the USA & Southeast Asia**, identifying three high-potential growth markets for deployment.
- Developed a **Python-based interactive gas map** (**JSON & Pandas**), optimizing regional energy feasibility analysis.
- Modeled **lifecycle emissions & financial feasibility** for natural gas, hydrogen & biogas as SOFC fuels.
- Led a **Beer Waste-to-power project** in a Japanese brewery using Bosch's SOFC product, identifying the potential to generate **572 kW of power** & reduce **thousands of metric tons of CO_2** annually.

Medco Power Indonesia | *Renewable Energy Engineer Intern* *Jakarta, Indonesia* | **03.2023 – 04.2023**
- Investigated the global electrolyzer market for a **solar-hydrogen hybrid power plant** proposal in Indonesia.
- Analyzed Power Purchase Agreements with governmental stakeholders to identify **PV optimization** opportunities.
- Conducted feasibility studies on **Bifacial PV systems** to increase solar absorption for a **utility-scale PV plant**.
- Achieved a **25% increase** in cost efficiency by redesigning the plant of a multi-million dollar PV project.

MFTBC – Daimler Trucks Asia | *Quality Management Intern* *Kanagawa, Japan* | **02.2022 – 08.2022**
- Implemented **SQL-based employee survey analytics**, identifying improvement points and actionable solutions.
- Led and designed the creation of the "Seat Booking System", **automating pandemic-period office management**.
- Received a **certificate of recognition** from the head of the department for digital transformation contributions.

KEY SKILLS AND INTERESTS

Languages	Tools	Interpersonal	Hobbies
Indonesian (Native)	Microsoft Office Suite	Experienced project manager	Travelling (Visited 22
English (IELTS 8.0 / C1)	Python, SQL, R	Proactive team player	countries, lived in 5)
German (B2)	Tableau, Power BI, Jira	Resilient, and punctual	Football Enthusiast
Japanese (Intermediate/N3)	HOMER, MATLAB, Simulink	Creative and detail-oriented	Cinematography
French (A2)	OpenModelica	Global-minded collaborator	Bouldering

PROJECTS

Geothermal Potential Analysis in Taiwan 🔗 | *University of Lorraine* *Nancy, France* | **10.2024 – 02.2025**

- Modeled Single-Flash and Binary Rankine Cycle geothermal plants in Python (CoolProp) for Taiwan's Datun region.
- Estimated **197 GWh/year** (Single-Flash) and **74.6 GWh/year** (Binary) generation potential, offsetting **255,000+ tons CO_2** annually, equivalent to removing **55,400 passenger cars** off the road per year.

Bachelor's Thesis 🔗 | *Sophia University* *Tokyo, Japan* | **10.2023 – 07.2024**

- Thesis's title: **Implementation of Renewables-based Power-to-Hydrogen-to-Power (P2H2P) System for Tropical Remote Island Stand-Alone Microgrids: A Techno-economic Comparative Analysis**
- Optimized P2H2P system sizing with **Homer Pro**, achieving **$0.236/kWh electricity cost**, lower than diesel and battery-based alternatives.

VOLUNTEERING & LEADERSHIP

President of the Indonesia Division at SEAS | *Sophia University* *Tokyo, Japan* | **10.2021 – 08.2024**

- Led a team of 20 at The Southeast Asian Society at Sophia (SEAS), a multi-university organization that empowers Southeast Asians in Japan in organizing and ideating workshops, exhibitions, and multicultural sharing sessions.

Volunteer at Sophia Refugee Support Group (SRSG) | *Sophia University* *Tokyo, Japan* | **08.2023 – 07.2024**

- Helping refugees in Japan acclimate to Japanese society by holding monthly gatherings, providing food, a safe space, cultural exchange, and Japanese learning opportunities.