

Jan Ric Maranan Hogat

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PROFESSIONAL SUMMARY

Electronics Engineer bridging **Electronic Systems** (IoT, SCADA, Cloud, Edge, Power Electronics) and **Data Science** (Data Modelling, ETL/ELT, BI dashboards, AI Agents). Seeking entry-level Technical, Field and Data Engineering roles.

WORK EXPERIENCE

Technical Support Engineer Intern <i>Panasonic Manufacturing Philippines Corporation</i>	August - October 2024 <i>Taytay, Rizal</i>
- Transformed a consolidating service records, warranty claims, spare parts counts, and unit status into structured Excel reports (Pivot Table & Charts), reducing operational decision turnaround on after-sales. - Analyzed and reclassified available electronics training units by analyzing service manuals, THT/SMD rework, interpreting circuit schematics, conducting physical inspections, and validating electrical parameters through multimeter and clamp meter testing. - Supported dealership onboarding across three product lines by facilitating and coordinating structured training sessions, capturing technical knowledge through detailed documentation and service manuals. - Reduced misdiagnosis rate on evaluated units by applying structured root-cause analysis.	

EDUCATIONAL BACKGROUND

Bachelor of Science in Electronics Engineering <i>Polytechnic University of the Philippines (PUP) – (GWA: 1.46)</i>	September 2025 <i>Sta. Mesa, Manila</i>
Licensed Electronics Engineer (GWA: 85) Licensed Electronics Technician (GWA: 80) Safety Officer 2 (BOSH)	

RESEARCH & ACADEMIC PROJECTS

Solar Power Plant Inverter Analysis - (<i>"Ongoing" 6-Month Data Engineering Project</i>)	
- Continuous learning on the development on an end-to-end pipeline analyzing solar yield from inverter telemetry, optimizing operations and anomaly detection. Tools & Stacks: <i>Github, Python, dbt SQL, Docker, Airflow, Snowflake, Power BI</i>	
ISO-Based Energy Audit & 10-Year Demand Forecasting for Brgy. Lower Bicutan – (<i>Data Analytics Project</i>)	
- Cut projected energy costs by Php 161,121/year via LED retrofit, inverter AC, and phantom load elimination, reducing monthly consumption by 1,220.84 kWh (24%) against a 2.625%-error-validated baseline. Tools & Stacks: <i>Python, Prophet (Meta), Jupyter Notebook, Pandas, NumPy, Matplotlib</i>	
Autonomous AI-Powered UAV Pest Monitoring System (<i>Thesis/Capstone Project</i>)	
- Replaced uniform pesticide spraying with targeted interventions using UAV-based pest detection via Multimodal Model and LLM-driven density analysis and recommendations. Tools & Stacks: <i>Python, FastAPI, NGINX, OpenAI API, RunPod, RTMP, DJI Phantom 4, LitchiApp</i>	
Automated 6-DOF Robotic Arm Banana Sorting System — (<i>Robotics Project</i>)	
- Achieved 99.4% mAP with a fine-tuned YOLOv11m model for banana quality classification for ketchup manufacturing, enabling a 6-DOF robotic arm to achieve 100% physical sorting accuracy across all test samples. Tools & Stacks: <i>Python, PyTorch, YOLOv11, LabelStudio, OpenCV, C++, PWM Servo Control</i>	
Techno-Economic Analysis of Floating Offshore Wind vs. Solar PV Farm – (<i>Energy System Research Analysis</i>)	
- Identified offshore wind as the optimal grid solution for Panay Island, producing 169,151 MWh AEP at ₱0.102/kWh LCoE, with 75% higher output and 16x lower cost than solar PV in a 50 MW simulation. Tools & Stacks: <i>RETScreen Expert, System Advisory Model (SAM), QGIS, Multi-Criteria Decision-Making</i>	

CERTIFICATIONS

Data Engineer Associate <i>SQL Associate AWS Cloud Practitioner</i>	July 2026
Python Data Associate <i>Github Foundations Data Literacy</i>	June 2026
AI Engineer for Developer Associate <i>AI Fundamentals</i>	October 2025

SKILLS & INTERESTS

Electronics Engineering: Embedded Systems, BMS, Signals, Instrumentation, PEC, RF, Networks, Adv Math, GEAS, Circuit Analysis, Telecommunication, Industrial & Power Electronics, Control Systems, Laws & Ethics	
Languages & Databases: Python, C++, SQL, PostgreSQL, Firebase, Supabase, AWS	
Data Engineering & Tools: Airflow, Pandas, NumPy, Matplotlib, MATLAB, GitHub, Docker, VSCode, Looker	

AFFILIATION

- **Data Engineering Pilipinas Community** - *Builder | Scholar* **2025 - Present**
- **Institute of Electronics Engineers of the Philippines, Inc (IECEP)** - *Member* **2021 - Present**