

Reyza Agung Gunawan

Mechatronics Engineer | Data & Digitalization Specialist | Marketing Analytics

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Professional Summary

Mechatronics Engineer with 4+ years of experience spanning automotive electrical engineering, EV development, aftersales problem solving, cost optimization, data analytics, and enterprise digitalization. Proven ability to translate complex technical systems into structured data, insights, and digital tools that support engineering reliability, operational efficiency, and management decision-making. Strong cross-functional collaborator bridging engineering, manufacturing, marketing, and IT.

Professional Experience

Electrical Design Engineer – ICE 3W Vehicle

Dec 2021 – Early 2022

- Conducted full electrical reverse engineering of an existing three-wheel internal combustion engine (ICE) vehicle as an onboarding and knowledge-transfer initiative.
- Disassembled and mapped complete wiring harness architecture, including power distribution, grounding strategy, protection devices, and signal routing.
- Performed electrical measurements and validation testing (voltage drop, current draw, load behavior, charging characteristics) under multiple operating conditions.
- Created structured electrical documentation including wiring diagrams, connector pinouts, and component specifications previously unavailable internally.
- Built baseline electrical parameter database used as reference for troubleshooting, redesign, and future model development.
- Reduced dependency on external vendors for diagnostics and shortened electrical issue investigation time by an estimated 40–50%.

Aftersales & Production Electrical Problem Solver

2022 – Present

- Acted as primary electrical technical support for production line, aftersales teams, and field service units.
- Led structured root cause analysis (RCA) for recurring electrical failures using field data, warranty reports, and physical inspection.
- Identified design weaknesses in ignition and power distribution systems that caused overheating and component melting in real-world usage.
- Redesigned electrical specifications, component selection, and installation standards to eliminate failure modes.
- Coordinated with suppliers, production engineering, and quality teams to implement corrective actions.
- Established fast-response troubleshooting workflows enabling consistent 24-hour aftersales resolution for electrical issues.
- Reduced electrical-related warranty claims and repeat failures by approximately 70–80% within one production cycle.

EV 3-Wheel Vehicle Development (Concept to Mass Production)

2022 – 2023

- Participated in end-to-end development of a three-wheel electric vehicle from early concept through mass production.
- Supported definition of vehicle electrical architecture, including high-voltage and low-voltage system separation.
- Worked on integration of BMS, motor controller, ECU, dashboard cluster, and auxiliary electrical systems.
- Supported CAN communication trials and validation between BMS, ECU, and instrument cluster.
- Conducted functional testing, fault analysis, and iterative improvements during prototype and pilot build stages.
- Supported regulatory testing, documentation, and certification processes required for government approval.
- Contributed to achieving production readiness and market launch within approximately 18–24 months.

Cost Reduction & Localization Engineering

2023

- Led initiatives to reduce vehicle BOM cost through component redesign and supplier localization.

- Evaluated alternative components and local suppliers while ensuring compliance with electrical performance and durability requirements.
- Conducted cost-benefit analysis comparing imported versus localized parts.
- Revised electrical specifications to balance cost, reliability, and manufacturability.
- Collaborated with purchasing and quality teams to qualify new suppliers.
- Achieved approximately 5–10% reduction in electrical BOM cost while maintaining reliability targets.

Data Analytics & Marketing Insight Development

2024

- Transitioned engineering data handling skills into business and marketing analytics initiatives.
- Designed and built Power BI dashboards for sales performance, production trends, and dealer activity.
- Cleaned, merged, and transformed large datasets from Excel, SAP, and operational reports.
- Automated recurring reports previously created manually, reducing reporting preparation time by approximately 60%.
- Analyzed historical sales and market data to identify performance gaps and growth opportunities.
- Delivered structured insights used as input for annual planning and marketing strategy discussions.

Digital Solution Development & Internal Task Force Member

2025

- Selected as part of an internal digitalization task force to reduce manual workflows and improve data visibility.
- Designed and developed internal web-based solution applications using Laravel.
- Built tools to consolidate operational, sales, and engineering data into centralized platforms.
- Integrated multiple data sources and implemented role-based access for internal stakeholders.
- Reduced manual data processing and reporting workload by an estimated 50–70%.
- Improved data accuracy, traceability, and real-time availability for decision-makers.

Enterprise Digital Platform Expansion

2026 – Present

- Supporting expansion of a centralized business monitoring platform across engineering, manufacturing, and marketing functions.
- Translating operational and transactional data into KPIs and management-level dashboards.
- Collaborating with cross-functional stakeholders to align data structure with business processes.
- Positioning digital platforms as strategic tools rather than reporting-only systems.

Technical Skills

- **Engineering:** Automotive electrical systems, wiring harness design, EV systems, CAN bus, RCA
- **Data & Analytics:** Power BI, advanced Excel, data cleaning, KPI development
- **Digitalization:** Laravel web applications, system integration, workflow automation
- **Business:** Cost reduction, localization strategy, marketing analytics, cross-functional collaboration

Education

Bachelor of Engineering – Mechatronics Engineering

University Name

, Indonesia