BARON PURWA HARTONO

AI Engineer · LLM Applications, Agentic Systems, RAG & MLOps

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Open to remote roles worldwide · hybrid or on-site in Jakarta & Tangerang

SUMMARY

AI Engineer with 10+ years across software engineering, data science, and AI education. Built and led Purwadhika's Data Science & Machine Learning and Data Analytics programs from 2018 — 1,000+ graduates now at Gojek, Grab, Tokopedia, Shopee, BCA, and more — and in 2025 architected its 15-week AI Engineering program end-to-end (LLM apps, agentic AI, RAG, MLOps), while leading the engineering and data teams as CTO and Head of Data. After nearly a decade building and leading these programs, made a deliberate return to hands-on engineering — now building agentic (LangGraph), text-to-SQL, and RAG LLM systems to production standards, and seeking an AI Engineer role, remote or in Jakarta/Tangerang.

TECHNICAL SKILLS

LLMs & GenAI: OpenAI API, Hugging Face, LangChain, LangGraph, RAG pipelines, text-to-SQL, vector databases (Pinecone, FAISS, pgvector), agentic & multi-agent systems, MCP (Model Context Protocol), LLM evaluation & observability (Ragas), DSPy, prompt engineering

Machine Learning: Python, scikit-learn, TensorFlow, Keras, PyTorch, deep learning, computer vision, OpenCV, NLP, pandas, statistical modeling

Engineering & MLOps: FastAPI, Flask, Docker, CI/CD (GitHub Actions), pytest, AWS (EC2), Google Cloud Platform, Microsoft Azure, MLflow, ONNX, REST APIs, Git/GitHub

Software Development: JavaScript/TypeScript (React, Node.js/Express), React Native, C#/.NET, MySQL, SQL Server, MongoDB

Data & BI: SQL, Tableau, Power BI, Plotly/Dash, dashboard design, sentiment analysis

SELECTED PROJECTS

Agentic Research & Report Assistant · **Live demo** · **Real-mode video** · **github.com/Baron197/agentic-research-assistant**

- LangGraph agents (Planner → Researcher → Writer → Critic → Finalizer): a critic checks each claim against its cited evidence, and a no-fabricated-sources guarantee held at **source_validity 1.00 in keyless, real-LLM, and live-web modes**; a live-web run returned a 100%-cited report in 27.5 s, real runs cost ~$0.001–0.002, and the critic's real-model A/B is published as a null result (+0.004 ± 0.007).
- Human-in-the-loop approval (LangGraph interrupt()), an MCP server (3 tools + 1 resource), a CI citation-coverage gate, per-run cost/latency tracing, 168 tests, and web pages treated as hostile input (escaped output, SSRF guard); deployed on AWS EC2 with Docker. LangGraph, MCP, FastAPI, Pydantic, DSPy.

Agentic SQL Analyst · **Live demo** · **github.com/Baron197/agentic-sql-analyst**

- Text-to-SQL agent (LangGraph) answering business questions in English or Bahasa Indonesia over a fictional retailer's synthetic Postgres database, showing its SQL and rows; **the model never types a number**: code fills every figure from the query result (0 model-typed numbers in 180 test answers).
- Read-only in three layers (sqlglot validator, read-only transaction and role) plus Postgres row-level security with an HMAC-signed region scope; 100% of unsafe requests blocked. Held-out test (60 questions × 3, gpt-6-luna): execution accuracy 0.933 ± 0.023 vs 0.953 ± 0.031 for a single-prompt baseline, within noise, published with the null ablations. FastAPI (SSE, auth, spend cap), React/TypeScript, AWS EC2, Docker, Caddy.

RAG Knowledge Assistant, built twice · **From-scratch demo** · **LangChain demo** · **github.com/Baron197/rag-knowledge-assistant** · **/rag-langchain**

- Built from scratch (hybrid BM25 + vector retrieval fused by reciprocal-rank fusion, inline citations, a refusal path) and again idiomatically with LangChain (LCEL, EnsembleRetriever, PGVector). Both rewrite follow-up questions from chat history, gate retrieval recall in CI, and track per-query cost and latency; Ragas faithfulness 0.955–0.970 and context recall 1.0 on real OpenAI runs. FastAPI, Streamlit, Docker, pgvector.

EXPERIENCE

AI Engineer — Independent · Remote

Mar 2026 – Present

- Building agentic (LangGraph), text-to-SQL, and RAG LLM systems end-to-end as portfolio work, to production standards: evaluation gates, grounded answers, database-enforced access control, per-run cost/latency observability, and an MCP server; earned the IBM AI Engineering Professional Certificate (2026).

Purwadhika Digital Technology School — Tangerang, Indonesia

Jan 2016 – Feb 2026

Indonesia's pioneering digital technology school. Progressed from lecturer to concurrent leadership of engineering, data, and the AI/data-science programs.

AI Engineering Program Manager

Feb 2025 – Feb 2026

- Architected the AI Engineering program end-to-end — syllabus, learning materials, hands-on projects, and capstone — spanning ML and deep learning (scikit-learn, TensorFlow), computer vision (OpenCV), and NLP through LLM application development (OpenAI APIs, Hugging Face, LangChain), agentic AI, RAG with Pinecone and FAISS, LLM observability (Langfuse), and MLOps deployment (FastAPI, Docker, GCP, MLflow, ONNX).
- Designed the project track in which every student ships a deployed LLM/RAG application as a capstone; grew the program to 100+ students across its cohorts, with curriculum co-built alongside six industry AI practitioners.
- Hired, onboarded, and managed the program's instructors and mentors; owned teaching quality and technical standards; refreshed the curriculum each cohort against industry demand and emerging tooling.

Chief Technology Officer

Nov 2022 – Feb 2026

- Led a cross-functional team of 6 engineers, 2 UI/UX designers, and a copywriter, building purwadhika.com and the internal admin platform used daily by finance, marketing, product, operations, HR, and career-network teams.
- Consolidated fragmented, spreadsheet-based processes into a single internal admin platform — establishing data integrity and one connected source of truth across divisions, and giving the board and C-level live reporting through built-in dashboards.
- Built end-to-end funnel and conversion tracking across marketing and admissions — from website visitors to inquiries to enrollments — and integrated Mekari Qontak to capture the sales team's chat metrics (response time, sentiment, messages).

Head of Data

Mar 2022 – Feb 2026

- Built and led the data team delivering company-wide Tableau analytics: inquiries-and-transactions funnel, customer demographics, website visitor behavior, and employee performance dashboards.
- Built a Twitter/X sentiment & social-listening dashboard — an NLP pipeline tracking brand perception, competitor performance, and emerging industry trends.
- Turned analytics into action across the business — sharper ad targeting, UI/UX and funnel optimization, and data-informed decisions for marketing, admissions, and operations.

Data Science Program Manager

Jun 2018 – Feb 2026

- Built and led the Data Science & Machine Learning and Data Analytics programs from the ground up — including Purwadhika's best-selling bootcamp — owning curriculum, projects, instructors, and academic quality since 2018.
- Programs produced 1,000+ graduates hired at BCA, Tokopedia, Shopee, Bukalapak, Allianz, Grab, Gojek, and more.

Lecturer — Data Science; Full-Stack Web & Mobile

Jan 2018 – Mar 2020

- Taught Python, data wrangling, visualization, statistics, and machine learning; plus full-stack development with React, Node.js/Express, MySQL, and React Native.
- Mentored dozens of end-to-end capstones (e-commerce, marketplaces, streaming apps) from system design to deployment.

Earlier: Part-Time Lecturer (2016 – 2017) — programming fundamentals in C/C# and OOP for Purwadhika's startup-incubator program.

Neurosoft Indonesia — Full-Stack Developer

Jul 2015 – Dec 2017

- Built a custom ERP web application for Honda IKM Group with .NET MVC, SQL Server, and Entity Framework — owned features end-to-end from database schema to frontend.
- Deployed and operated the system on Microsoft Azure, keeping it reliable in daily production use.

EDUCATION

MITx MicroMasters Program, Statistics & Data Science — MIT (edX, online) 2022 – 2023

4/4 graduate-level courses completed (probability, statistics, machine learning, data analysis); capstone exam pending.

Computer Science, undergraduate studies — Purwadhika Digital Technology School 2014 – 2018

CERTIFICATIONS

- **IBM AI Engineering Professional Certificate** — IBM · 2026 · Verify credential
- **IBM Data Science Professional Certificate** — IBM · 2020 · Verify credential
- **Microsoft Certified: Azure Fundamentals** — Microsoft · 2019 · Verify credential
- **MITx MicroMasters course certificates** — 2022–2023 · Probability · Fundamentals of Statistics · Machine Learning with Python · Data Analysis

LANGUAGES

English — professional working proficiency · Bahasa Indonesia — native