

STEPHEN REY G. AGUSTINEZ

AI Automation Architect | Software Engineer

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PROFESSIONAL SUMMARY

AI Automation Architect and Full-stack Developer specializing in n8n workflow architecture, AI agents, REST API integrations, webhooks, structured data processing, and operational automation. Experienced in building end-to-end systems that validate incoming data, apply business rules, connect third-party platforms, process information through AI models, synchronize records, track workflow state, handle failures, and route sensitive or high-value cases for human review. Full-stack foundation includes React, Java, Spring Boot, SQL, authentication, debugging, monitoring, and technical documentation.

TECHNICAL SKILLS

Automation and AI: n8n, self-hosted n8n, OpenAI, Claude, Codex, Claude Code, AI agents, Zapier, Make, HighLevel, prompt workflows, structured outputs, human-in-the-loop systems

APIs and Integrations: REST APIs, webhooks, JSON, HTTP requests, API authentication, Postman, field mapping, data transformation

Voice and Messaging: Retell AI, Twilio, inbound and outbound AI calling, SMS automation, transcript processing

Data and Business Systems: Google Sheets, Google Docs, Google Drive, Airtable, SQL, CRM synchronization, deduplication, record matching, state management

Full-stack Development: Java, Spring Boot, JavaScript, TypeScript, PHP, React, Next.js, Git, GitHub, Vercel

Reliability: Error handling, retries, logging, monitoring, exception routing, workflow documentation, system handover

PROFESSIONAL EXPERIENCE

AI Automation Architect

Self-Employed | Remote | Freelance / Part-Time | September 2024 - Present

- Architect end-to-end n8n systems integrating AI models, REST APIs, webhooks, CRMs, spreadsheets, messaging tools, document platforms, and structured databases.
- Build OpenAI and Claude workflows for lead qualification, transcript analysis, email categorization, structured extraction, content generation, and customer communications.
- Develop inbound and outbound AI voice automations using Retell AI and Twilio.
- Configure API authentication, HTTP requests, JSON payload transformation, field mapping, webhook handling, and third-party integrations.
- Design routing for matched, unmatched, successful, failed, pending, and human-review scenarios.
- Implement normalization, deduplication, record matching, state tracking, retries, logging, monitoring, and exception handling.
- Integrate Google Sheets, Google Docs, Google Drive, Airtable, HighLevel, and external APIs into operational workflows.
- Create workflow diagrams, implementation documentation, troubleshooting guides, and maintainable handover materials.

Full-Stack Developer

Accenture | Cebu City, Philippines | June 2025 - June 2026

- Developed and maintained full-stack applications using React, Java, Spring Boot, REST APIs, and SQL.
- Integrated databases, authentication systems, and third-party services into enterprise applications.
- Designed and debugged API endpoints, request payloads, response handling, and service integrations.
- Participated in code reviews, root-cause analysis, performance optimization, and technical documentation.

Process Engineer I

ONSEMI | Lapu-Lapu City, Cebu | September 2024 - June 2025

- Conducted process analysis, root-cause investigation, corrective-action planning, and production-data evaluation.
- Built data-cleaning workflows and Power BI dashboards for loss analysis and operational reporting.
- Developed the Plating Loss Monitoring dashboard to improve visibility into weekly production losses.

Manufacturing Engineer I

ONSEMI | Lapu-Lapu City, Cebu | January 2024 - July 2024

- Designed and implemented internal web applications to improve manufacturing execution and operational visibility.
- Developed the Maintenance Online Logbook for machine downtime and tooling-replacement tracking.
- Developed the Fire Extinguisher Online Inspection System with QR-code-based access.
- Supported system deployment, structured data management, process improvement, and documentation.

SELECTED AI AUTOMATION PROJECTS

Automated Real Estate Lead Qualification and Outbound Calling System

Tools: Self-hosted n8n, Retell AI, Google Sheets, Google Docs, Google Drive, REST APIs, HTTP requests, webhooks

- Designed a three-workflow closed-loop system for lead intake, outbound AI calling, inbound caller matching, transcript processing, qualification, record updates, monitoring, and human acquisitions handoff.
- Built scheduled intake logic for normalization, deduplication, lead selection, authenticated Retell API calls, and dispatch status tracking.
- Created inbound lookup logic that normalizes phone numbers, matches callers to lead records, updates workflow state, and returns matched or controlled no-match context to the AI voice agent.
- Processed post-call webhooks and transcripts, routed matched and unmatched cases, updated records, archived documentation, and escalated qualified opportunities.
- Added API response validation, error handling, failure routing, logging, monitoring, and human-review paths.

Memory Preview - Governed Long-Term Knowledge Base for AI Workflows

Tools: AI tool calling, structured knowledge records, semantic search, project isolation, source provenance, conflict detection, GitHub pull requests, version control

- Designed a project-scoped knowledge system that separates temporary conversation context from durable AI knowledge.
- Prevented silent AI memory updates by requiring a complete preview and explicit human approval before information could be saved.
- Added source provenance, confirmation status, duplicate warnings, conflict handling, proposal identifiers, cryptographic hashes, and controlled supersession of outdated records.
- Used Git-based version control and pull requests to preserve audit history, project isolation, and human oversight.

EDUCATION

Bachelor of Science in Computer Engineering

University of Science and Technology of Southern Philippines | 2019 - 2023

CERTIFICATIONS

CCNA: Enterprise Networking, Security, and Automation - Cisco | Google Technical Support Fundamentals | OWASP Top 10: Securing Web Applications | CCSP 2019: Identity and Access Management | CCSP 2019: Application Development and Security