

Louis (Kyuesup) Byun

Full Stack Engineer (Backend-Focused) | FastAPI · AWS · Production Systems

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PROFESSIONAL SUMMARY

Backend-focused Full Stack Engineer with extensive experience designing, building, and operating production-grade software platforms, including fintech and enterprise systems. Expert in Python (FastAPI, Flask), RESTful API design, AWS cloud deployment, Docker containerization, and automation with Python/PowerShell. Skilled in supporting live systems with strong reliability, observability, and cross-team collaboration. Experienced in AI-assisted development (Cursor), LLM-based AI agent deployment (Gemini API, Node.js, AWS EC2), and Flowise (LangChain) implementation.

CORE SKILLS

- Full Stack / Backend:** Python (FastAPI, Flask), RESTful API, Vue.js collaboration, FE–BE–DB architecture
 - Cloud & Infrastructure:** AWS, Docker, Linux/Windows servers
 - Data & Persistence:** PostgreSQL/MySQL/MariaDB, schema design & query optimization
 - Operations & Reliability:** Production support, logging/monitoring, incident analysis, SOP documentation
 - Automation & Productivity:** AI-assisted development (Cursor), Python/PowerShell automation, Git/SVN
 - LLM & AI Agent Deployment:** LLM-based AI agent infrastructure (Gemini API, Node.js, AWS EC2 Ubuntu), Flowise deployment (LangChain, complex chatflows)
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PROFESSIONAL EXPERIENCE

Senior Software Engineer

Zinnotech (Samsung Austin Semiconductor) — Austin, TX | Sep 2024 – Present

- Designed and deployed automation and monitoring systems for large-scale semiconductor manufacturing operations.
- Served as technical owner of software workflows, ensuring operational stability, availability, and SLA compliance.
- Built real-time diagnostics and visualization dashboards using Splunk SPL for log and event analysis.
- Performed Windows system-level analysis and reverse engineering (Win32 APIs, message handling) to stabilize critical internal tools.
- Developed Python and PowerShell automation scripts integrated with backend services for centralized execution. Supported secure enterprise environments including VDI operations, access control, and incident response.

Tech Stack: Python, PowerShell, Win32 API, Splunk, Automation Anywhere, Windows, Linux, Flask

Principal Software Engineer / Platform Architect

Personal Engineering Projects — Austin, TX | Jan 2025 – Present

- Architected and operated always-on cloud platforms with monitoring, fault handling, and automated recovery.
- Designed modular backend systems using Python/Flask with structured logging, health checks, and secure authentication.
- Deployed LLM-based AI Agent infrastructure using Google Gemini API, Flowise, Node.js, and AWS EC2, integrating RAG for specialized document queries and memory-enabled chatflows.<http://github.com/louisbyun/aiAgent/blob/main/README.md>
- Developed containerized Linux services with Docker/Nginx and data pipelines for scientific and domain-specific datasets:
 - ai-Gene X™ — DNA-based trait analysis platform
<http://github.com/louisbyun/aiGenex/blob/main/README.md>
 - OdorMind™ — Odor data collection and visualization platform
- Designed and deployed ai Swing™ Crypto, an automated trading platform integrating Coinbase and Webull APIs with adaptive RSI strategies and systematic risk controls.
<https://github.com/louisbyun/aiSwing/blob/main/README.md>
- Implemented role-based access control and operational dashboards for real-time system visibility and multi-role management.

Tech Stack: Python, Flask, PostgreSQL, Node.js, Docker, Linux, AWS EC2, Flowise(LangChain), Gemini API, Nginx

Senior Software Engineer / System Administrator

Orange Digit Inc. — Seoul, South Korea | Sep 2012 – Feb 2024

- Designed and developed full stack backend platforms for enterprise LMS, CMS, and AI-based machine vision systems, supporting multi-tenant and manufacturing environments.
- Built RESTful services using Python (Flask) and deployed them in Linux + Docker environments; designed and optimized relational databases (PostgreSQL, MySQL).
- Integrated robotic control systems, backend services, and messaging infrastructure (MQTT) for manufacturing and enterprise clients.
- Developed and deployed Node.js/TypeScript backend for Android/iOS mobile apps, delivering robust RESTful APIs.
- Managed cloud platforms and backend architectures supporting enterprise and public-sector customers.
- Operated and supported long-running production systems, handling deployments, monitoring, backups, and incident response.
- Led cross-functional teams of 5–10 engineers, delivering 40+ production systems.
- Authored SOPs and operational documentation to ensure maintainability, operational consistency, and reliability.

Technical Field Application Engineer

ST-Ericsson — Seoul, South Korea | Dec 2007 – Mar 2012

- Provided technical support and customer-facing leadership for large-scale wireless platforms (3G, Wi-Fi, Bluetooth, GPS, USB).
 - Analyzed logs and system behavior to diagnose complex system-level issues.
 - Supported system validation, integration, and mass production across development stages.
 - Acted as a technical bridge between engineering, QA, and customer teams, collaborating with HW and RTOS teams on requirements, porting, and debugging.
 - Contributed to a 3G platform generating approximately \$41M in revenue.
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Senior Embedded Software Engineer

LG Electronics — Seoul, South Korea | Mar 2004 – Jul 2007

- Designed automated pre-inspection test systems for mass-production Bluetooth modules.
 - Developed C-based firmware and automated calibration/testing pipelines.
 - Performed SoC-level verification, schematic reviews, and HW/SW bring-up with hardware engineers.
 - Utilized SPI, I2C, UART, GPIO, and JTAG extensively for device validation.
 - Led bootloader (BIOS/BSP) development and porting across platforms.
 - Executed RF, audio, and protocol-level automated testing to reduce production defects.
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Quality Assurance Manager (Navigation Systems)

SK — Seoul, South Korea | Jan 2002 – Jan 2004

- Led operational quality analysis for a GPS-based mobile navigation platform.
 - Analyzed real-world routing data to identify and correct systemic path calculation errors (~100 cases/day).
 - Collaborated with development teams to improve routing accuracy, reliability, and service stability.
 - Established data-driven feedback loops for continuous service improvement.
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EDUCATION

- **M.S. in Computer Engineering** — Ajou University
 - **B.S. in Computer Science** — Ajou University
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CERTIFICATIONS

- DevOps on AWS Specialization — Amazon Web Services (2024)
- Automation Anywhere Master RPA Professional — Automation Anywhere (2025)
- Advanced Automation — Automation Anywhere (2024)
- Splunk Search Expert 101 — Splunk (2024)
- SQL for Data Science — University of California, Davis (2024)
- IT System Administration & Infrastructure Services — Google (2024)
- SIX Sigma Green Belt