

Woobin Joo

Engineering Manager | Fintech & Payments | Distributed Systems | AI-Native Development

woobin0413@gmail.com · New York, NY

PROFESSIONAL SUMMARY

Hands-on Engineering Manager with deep experience building high-scale payment settlement, reconciliation, and PayFac platforms. Proven expertise integrating global payment processors and designing reliable financial infrastructure across settlement, funding, EDI 820, and reconciliation workflows. Experienced leading engineering teams while remaining hands-on in architecture and development, with a focus on workflow automation, AI-assisted engineering, and scalable fintech systems.

SKILLS

Engineering Leadership: Hands-On Technical Leadership, Architecture & Technical Decision-Making, Code Review & Mentorship, Contractor Management, Security, Engineering Efficiency

Full Stack and Infrastructure: NestJS, Next.js, Temporal, REST API Design, Microservices, AWS, Docker, Kubernetes

AI Native Development: AI-Assisted Software Development, Spec-Driven Development, Claude, Multi-Agent & Subagent Workflows, LLM Integration

Languages: Python, C#, Java, JavaScript, ASP.NET Core, SQL (MySQL, PostgreSQL)

WORK EXPERIENCE

Vice President of Engineering, Settlement Systems, Boost Payment Solutions

New York, NY | 12/2019 to Present

- Architected and owned mission-critical settlement and funding infrastructure supporting high-volume transaction processing across multiple payment rails.
- Designed and implemented Temporal workflows and activities to automate QC validation and funding execution, reducing manual operational processing by approximately 75% while providing reliable, auditable exception handling.
- Architected REST APIs and transaction-processing services for payment authorization, idempotency and duplicate-payment prevention, audit logging, and authorization-to-settlement matching to support accurate reconciliation and payment investigations.
- Led integrations with 5+ payment processors, owning architecture and implementation from requirements through production deployment.
- Built real-time operational dashboards and monitoring capabilities providing visibility into transaction integrity, reconciliation exceptions, system health, and processing performance.
- Led and mentored 10+ engineers and contractors across internal and external teams over time while remaining hands-on in architecture, code reviews, implementation, production troubleshooting, and technical decision-making.
- Partnered with product and operations teams to identify manual operational bottlenecks and replace them with automated, scalable engineering solutions.

Assistant System Developer, Unify Systems (Hyundai Mobis)

Montgomery, AL | May 2017 to 2019

- Built full-stack features and backend services in C# and ASP.NET, including SQL data infrastructure, ETL pipelines, and real-time integrations supporting automotive manufacturing operations.
- Designed and optimized SQL jobs, backend data structures, and web services to improve system reliability, data availability, and production data flow.
- Maintained mission-critical integrations between SAP and MES systems supporting production operations across multiple Hyundai vehicle programs.

Data Analyst, ARMA International

Albany, NY | January 2016 to May 2017

- Analyzed traffic-system data and collaborated with traffic engineers to evaluate signal timing, control systems, and sensor performance
- Assessed existing traffic-control software and developed recommendations to improve signal efficiency and sensor deployment strategies.

EDUCATION

State University of New York at Albany | Albany, NY

B.S. in Information and Technology (Software Engineering). Dean's List. Presidential Honors Society. Tau Sigma National Honor Society.