

JOSEPH PAULO L. MANTUANO

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EXECUTIVE SUMMARY

Principal Engineer and Data Architect with over a decade of hands-on software and data engineering excellence delivering scalable, distributed systems across banking, fintech, e-commerce, and telecommunications. Combines deep technical mastery across low-latency event fabrics, high-throughput Kafka streaming engines (handling up to 9TB/day and 495 MB/s sustained throughput), Apache Iceberg lakehouses, and full-text search internals (Elasticsearch, Solr) with the ability to lead architectural strategy and engineering squads. Recognized Elastic Community Organizer focused on real-time data platforms, observability, and distributed systems architecture. Pursuing an M.S. in Computer Science at De La Salle University.

CORE COMPETENCIES & TECHNICAL EXPERTISE

- **Languages & Systems Programming:** Java, Kotlin, Python, Go, SQL
 - **Software Engineering & Distributed Systems:** Distributed Systems Design, Object-Oriented Design (OOD), Concurrency & Threading, RESTful APIs, Code Debugging & Profiling
 - **Distributed Streaming & Ingestion:** Apache Kafka, Confluent Cloud, Apache NiFi, Apache Flink, Apache Spark
 - **Search & Information Retrieval:** Elasticsearch, Apache Solr, Apache Lucene internals, Natural Language Processing
 - **Data Lakehouse & Cloud Platforms:** Apache Iceberg, Amazon Redshift, AWS DataZone, AWS S3, Docker, Kubernetes
 - **Architecture & Governance:** Platform Observability, FinOps, Regulatory Compliance, Data Strategy
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PROFESSIONAL EXPERIENCE

Security Bank Corporation | Makati City, Philippines

Principal Engineer & Data Architect • November 2023 – Present

(Leading Real-Time Data Strategy & Architecture across Enterprise Data Systems)

- **Distributed Systems & Real-Time Streaming Engineering:**
 - Architected and engineered the bank-wide real-time event streaming backbone, decoupling monolithic legacy core banking batch pipelines into an event-driven publish/subscribe topology.
 - Defined partition key distribution policies, serialization standards with strict Schema Registry validation, and end-to-end processing semantics for mission-critical financial events.
 - Implemented custom schema validation hooks and serialization protocols, preventing poison pills and ensuring backward compatibility across distributed event consumers.
 - Formulated technical roadmaps and provided architectural governance across platform engineering squads, serving as the primary technical authority on distributed data systems.
- **Modern Lakehouse Architecture & Distributed Compute (Iceberg / Spark):**
 - Engineered an enterprise-grade lakehouse storage tier leveraging Apache Iceberg on AWS S3, standardizing metadata compaction policies, hidden partitioning, and snapshot retention to eliminate small-file sprawl and optimize read amplification.
 - Optimized Apache Spark distributed batch and streaming compute jobs, tuning memory allocation, shuffle partitions, and broadcast joins to accelerate analytical processing against Amazon Redshift and AWS DataZone.
 - Enabled democratized self-service SQL interfaces across business units with fine-grained access control, reducing ad-hoc data pipeline development cycles.
- **Platform Observability, FinOps & Regulatory Hardening:**
 - Designed a central data observability platform monitoring query performance, warehouse usage patterns, and executor memory saturation, delivering measurable reductions in cloud compute expenditures.

- Implemented automated audit logging, and strict IAM governance to enforce stringent banking compliance standards across all ingestion and storage layers.

Globe Telecom | Bonifacio Global City, Philippines

Senior Manager – Data Engineering • April 2023 – November 2023

Data Engineering Manager – Data Streaming • November 2019 – March 2023

- Architected and managed a mission-critical, 9TB/day enterprise Kafka and Confluent Cloud streaming platform supporting sustained throughput of 495 MB/s with high uptime.
- Accelerated business integration velocity by migrating streaming ETL workflows to Apache NiFi, reducing onboarding time from 15 days to 5 days, pipeline build times from 3 days to half a day, and slashing integration costs by 95%.
- Led a high-performing team of data engineers supporting near-real-time campaign marketing, centralized enterprise log analytics, and platform capacity planning.
- Standardized Confluent Schema Registry enforcement, partition key balancing, and security protocols across hybrid AWS-to-on-premise data pipelines.

The Red Flag Group | Bonifacio Global City, Philippines

Senior Software Engineer • October 2016 – October 2019

- Architected high-throughput web crawlers, data cleansing ETL pipelines, and full-text search systems using Java, Kotlin, Spring, Elasticsearch, and MongoDB.
- Tuned inverted index structures and Lucene segment merge policies for compliance data, reducing full index regeneration runtimes from 30 days to 1 hour and doubling overall query throughput.
- Established automated stress/performance testing benchmarks, code review frameworks, and RESTful API standards across distributed teams.

Infor Pssc, Inc. | Fort Bonifacio, Philippines

Software Engineer • June 2014 – October 2016

- Developed multi-tenant enterprise e-commerce search engines utilizing Apache Solr and Apache ZooKeeper for high availability.
- Improved search relevance and precision by integrating natural language processing tokenizers to interpret semantic user query intents.

Misys Plc | Makati City, Philippines

Software Engineer • January 2011 – June 2014

- Engineered and maintained enterprise web applications on IBM WebSphere Application Server for global banking and lending platforms.
- Streamlined release configurations, build verification scripts, and multi-tenant environment deployments.

Accenture | Mandaluyong City, Philippines

Associate Software Engineer • July 2008 – November 2008

- Developed, tested, and maintained core program modules according to enterprise client specifications.

EDUCATION & COMMUNITY

- **Master of Science in Computer Science**
De La Salle University, Manila, Philippines • September 2023 – Expected December 2026
- **Bachelor of Science in Computer Engineering**
De La Salle Lipa, Batangas, Philippines • 2003 – 2008
- **Community Leadership:**
Official Elastic Community Organizer – Manila Chapter (Hosting meetups, technical talks, and practitioner workshops on Elasticsearch and Lucene internals).