

PRASHANT SINGH

Lead Software Engineer | Data Engineering | Snowflake | Python | SQL | Apache Airflow | AWS

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PROFESSIONAL SUMMARY

Lead Software Engineer and Data Engineer with 12+ years of experience building and operating production data platforms in asset management and banking. Hands-on expertise in Python, advanced SQL, Apache Airflow, Apache Spark, Snowflake, and AWS across batch and streaming pipelines, data modeling, regulatory reporting, data quality, CI/CD, and production support. Experienced in leading engineers, modernizing legacy workflows, and applying LLM, retrieval-augmented generation (RAG), and Model Context Protocol (MCP) integration patterns in risk-controlled environments.

TECHNICAL SKILLS

Programming: Python, SQL, PySpark, Java, Scala, PL/SQL, shell scripting

Data Engineering: Apache Airflow, Apache Spark, Kafka, dbt, AWS Glue, ETL/ELT, batch and streaming pipelines, data warehousing, data modeling, schema design, data quality, lineage

Snowflake: Snowpipe, COPY INTO, external stages, Streams and Tasks, Dynamic Tables, Materialized Views, Snowpark, data sharing, RBAC, row-level security, Time Travel, query profiling, warehouse sizing

Cloud and Platforms: AWS S3, Glue, Lambda, Redshift, EMR, MWAA, EC2, IAM; Docker; PostgreSQL; MySQL; Oracle

Engineering: REST APIs, FastAPI, Django, Git, CI/CD, unit and integration testing, code reviews, observability, release management, production support

AI and Analytics: RAG, MCP, agentic workflows, LLM integration and evaluation, Pandas, NumPy, scikit-learn, XGBoost

PROFESSIONAL EXPERIENCE

Nomura Asset Management International | Gurugram, India | Dec 2025 - Present

Lead Software Engineer | Apr 2026 - Present

Senior Software Engineer / Senior Data Engineer | Dec 2025 - Apr 2026

Employment continued through Nomura's acquisition of Macquarie Asset Management's U.S. and European public investments business, effective 1 December 2025.

- Design and deliver end-to-end Python, SQL, Apache Airflow, and AWS pipelines for fund performance, pricing, positions, and regulatory disclosures published on Nomura websites; own ingestion, validation, reconciliation, service levels, release, and production support.
- Defined and delivered Legal Day 1 requirements for the Positions and Holdings Reporting System, supporting uninterrupted regulatory and client reporting during the Macquarie-to-Nomura transition.
- Own curated data products for U.S. mutual funds, exchange-traded funds, and separately managed accounts, including data models, schema evolution, data-quality controls, lineage, and compliance.
- Re-engineered trade and position reporting extracts on a Python, Airflow, and AWS stack, improving reliability, observability, and maintainability.
- Use Snowflake Dynamic Tables and Cortex ML capabilities to evaluate low-latency refresh and analytics-automation patterns while maintaining validation, security, and governance controls.
- Lead code reviews, automated testing, CI/CD, documentation, and release discipline; mentor engineers and coordinate delivery with global product and business stakeholders.

Macquarie Asset Management | Gurugram, India | Oct 2024 - Dec 2025

Senior Data Engineer, Assistant Manager

- Migrated legacy EAGLE PACE and STAR batch workflows from AutoSys and Control-M to Apache Airflow DAGs with scheduling, retries, backfills, dependency management, and automated alerting.
- Built reusable PySpark and Pandas transformation components with reconciliation and completeness checks to strengthen reliability and scalability.
- Automated manual workflows across multiple teams, reducing operational dependency and improving work tracking and delivery consistency.
- Evaluated LLM, RAG, and MCP-based tool-integration patterns for workflow automation, with emphasis on output validation, security, and build-versus-reuse decisions.

Indian Overseas Bank | India | Jun 2014 - Oct 2024

Senior Data Engineer, Manager | Erode | Jun 2022 - Oct 2024

- Architected a loan-origination platform covering lead capture, underwriting, approvals, and disbursement using Kafka, Redis, event sourcing, CQRS, Temporal, FastAPI, PostgreSQL, and Docker.
- Led a six-member engineering team across delivery planning, task allocation, code reviews, mentoring, and performance feedback.
- Delivered enterprise ETL pipelines for customer and branch-performance analytics using Apache Spark, PySpark, SQL, and AWS, with focus on performance, reliability, scalability, and cost.
- During 2023-2024, implemented Snowflake Dynamic Tables and Snowpark Python UDFs for analytical transformations and fraud-scoring workflows, reducing cross-platform data movement.
- Built fraud-intelligence, AML monitoring, and near-real-time transaction-alerting pipelines using PySpark, SQL, and Apache Airflow; reduced detection time by 40% for the measured workflow.
- Embedded KYC validation, data governance, and IAM-based access controls into AWS data pipelines supporting AML and financial-crime analytics.

Data Engineer, Manager | Erode | Jun 2019 - Jun 2022

- Architected a Snowflake data warehouse for retail-banking analytics using external stages, COPY INTO, Snowpipe, Streams and Tasks, RBAC, and row-level security.
- Optimized Materialized Views, clustering keys, Query Profile analysis, and virtual-warehouse sizing for AML and credit-risk reporting workloads.
- Built dbt transformation models with schema tests, documentation, and lineage; used Snowflake Data Sharing, Time Travel, and Fail-safe to support governed data access and recovery.
- Designed a credit-risk data pipeline using Apache Airflow, Apache Spark, and AWS, and implemented Basel II and Basel III reporting controls.
- Developed credit-scoring and loan-default prediction models for risk assessment and decision support.

Python Developer, Assistant Manager | Panjim | Jun 2015 - Jun 2019

- Built the Outlier Case Alert System for transaction monitoring and automated daily Python and SQL data flows, reducing manual processing while improving auditability and control coverage.

Junior Python Developer, Assistant Manager | Chennai | Jun 2014 - Jun 2015

- Developed a risk-based internal-audit management system in Django and MySQL with risk-prioritized scheduling, review, and approval workflows.

EDUCATION

Executive Development Program in Applied Financial Risk Management | Indian Institute of Management Kashipur | Aug 2025 - Dec 2025

Coursework included market, credit, and operational risk modeling in Python and R.

Master of Technology in Computer Science (three semesters; discontinued) | Madhav Institute of Technology & Science, Gwalior | 2011 - 2012

Research from this period published in the International Journal of Computer Applications, Apr 2013.

Bachelor of Technology in Computer Science | Anand Engineering College, Agra | Aug 2007 - Jul 2011

CERTIFICATIONS

- Astronomer Certification: DAG Authoring for Apache Airflow 3 (2026)
- AWS Certified AI Practitioner
- AWS Certified Cloud Practitioner
- Build AI Apps with MCP Server - DeepLearning.AI (2026)
- Developing LLM Applications with LangChain (RAG) - DataCamp (2026)
- JavaScript RAG Web Apps with LlamaIndex - DeepLearning.AI (2026)
- Generative AI with LLMs - DeepLearning.AI

PUBLICATION

Neha Agarwal and Prashant, "Incremental Associative Memory Model Algorithm for Highly Scalable Recommender Systems," International Journal of Computer Applications, vol. 68, no. 21, pp. 34-37, Apr 2013. DOI: 10.5120/11705-7317.
doi.org/10.5120/11705-7317