

Alvin Lee

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TECHNICAL SKILLS

Languages: Python, SQL | **Cloud:** AWS S3, Azure Blob, Docker, Kubernetes, Terraform, Snowflake | **Data Tools:** DBT, Apache Airflow, NumPy, Pandas

EXPERIENCE

Software Engineer - Data Platform, PepsiCo

July 2023 – Present

- Built self-service data platform integrating Jira Service Management, GitHub webhooks, and Snowflake APIs, automating provisioning workflows through Airflow-orchestrated data synchronization, reducing manual provisioning from two days to under one hour.
- Led data platform integration for acquired brand, consolidating disparate data pipelines and sources while implementing PII compliance through secure hashing protocols.
- Engineered an internal Snowflake MCP audit server that became a critical platform tool during a company-wide RSA migration, enabling the seamless cutover of 200+ system accounts from basic auth with zero downtime.
- Standardized infrastructure-as-code practices as global Terraform SME by designing reusable modules for 5 multi-region Snowflake accounts (thousands of objects — DBs, schemas, roles, system users), reducing global provisioning time by 60% and mentoring 15+ engineers on adoption.
- Built an enterprise-scale RSA key rotation system using Terraform and Azure Key Vault, automatically rotating 200+ Snowflake service keys monthly via CI/CD pipeline while maintaining zero-downtime through consistent secret naming conventions.
- Managed DBT repository infrastructure and led DBT version upgrades, ensuring pipeline reliability across analytics workflows.

Software Engineering Intern - Data Platform, PepsiCo

May 2022 – August 2022

- Built a pipeline performance monitoring & alerting stack (Python + SQL) that reduced MTTR by ~40%, surfacing SLA breaches and noisy tasks with actionable context.

PROJECTS

Snowflake Analytics MCP Server ([GitHub](#))

- Built comprehensive MCP server alongside Claude Code featuring 15+ analytics tools for Snowflake cost optimization, security monitoring, and anomaly detection using Python, FastMCP, and pandas.
- Implemented enterprise-grade security architecture with RSA key authentication, query validation, and schema-level access controls to prevent unauthorized database access.

Syncify ([GitHub](#))

- Built a cross-platform music migration service integrating Spotify and Apple Music APIs with ISRC-based matching and fuzzy fallback, achieving ~95% track matching accuracy.
- Implemented OAuth 2.0 authentication, intelligent rate limiting, and real-time progress tracking, with detailed sync reporting and fault tolerance for large playlist migrations.

EDUCATION

New York University: B.A. in Mathematics and Computer Science

May 2023

Relevant Coursework: Probability, Statistics, Linear Algebra, Optimization, Data Structures, Algorithms