

Linyi (Lincoln) Guo

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Summary

Results-driven Software Engineer with 4+ years of experience designing scalable data pipelines, backend systems, and cloud infrastructure. Proficient in Python, SQL, distributed systems, and AWS. Skilled in optimizing system performance, automating workflows, and delivering robust solutions. M.Sc. in Statistics with strong analytical and problem-solving skills. Passionate about software engineering best practices and continuous learning.

Work Experience

Senior Software Engineer, GBM Engineering, Scotiabank Apr 2025 – Present

- Built cash flow pipelines and enhanced the GUI to automate business analytics for global equity derivatives trading
- Led migration and upgrade of core infrastructure, including Python services, MongoDB, and PostgreSQL, improving system reliability and scalability.
- Championed the adoption of best practices for code quality, deployment, and monitoring within the engineering team.

Software Engineer, GBM Engineering, Scotiabank Mar 2024 – Mar 2025

- Designed and implemented robust data pipelines supporting fixed income electronic trading activities.
- Integrated a Redis caching layer, reducing system latency to 1 ms and significantly increasing throughput.
- Automated end-to-end reporting and analytics processes, eliminating manual effort and reducing errors.
- Led backend AWS infrastructure migration and optimization, reducing cloud compute costs by 16%.

Risk Quantitative Developer, Global Risk Management, Scotiabank Nov 2021 – Feb 2024

- Developed and automated ETL pipelines, reducing manual intervention by 50% for each month-end settlement.
- Built Python-based frameworks for scenario analysis and stress testing with high flexibility
- Delivered real-time interactive dashboards with proactive monitoring and alerting capabilities.
- Applied machine learning techniques for automated data validation and anomaly detection.

Statistical Programmer, Everest Clinical Research May 2021 – Oct 2021

- Developed validated statistical reporting pipelines for clinical trial deliverables.
- Optimized data validation and cleansing workflows, enhancing efficiency.
- Automated production and validation for standardized datasets.

Skills

Programming & Tools: Python (Pandas, NumPy, Spark), SQL, Redis, MongoDB, PostgreSQL, Kafka, Airflow, AWS (EC2, S3, Lambda), Docker, Git, CI/CD pipelines

Systems & Concepts: Data Engineering, Distributed Systems, Cloud Infrastructure, Automation, Monitoring, Performance Optimization

Machine Learning & Analytics: ML Pipelines, Data Validation, Anomaly Detection, Statistical Analysis

Domain Knowledge: Financial Risk Modeling, Regulatory Compliance, Equity Derivatives, Fixed Income

Education

M.Sc. in Statistics (GPA: 4.0/4.0) Sep 2018 – Aug 2020

University of Ottawa, Ottawa, Canada

B.Sc. in Mathematics (GPA: 3.7/4.0) Sep 2014 – Jul 2018

Zhengzhou University, Zhengzhou, China