

Rui Song

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EDUCATION

McGill University

Bachelor of Science: Major in Statistics and Computer Science, Minor in Finance

Cumulative GPA: 3.93/4.0 (Distinction) | Major GPA: 3.99/4.0

Awards: Faculty of Science Scholarship (Top 5%), Dean's Honor List (Top 10%)

Teaching Assistant: TA of Introduction to the Computer System, Algorithm and Data Structure and Algorithm Design

Montreal, Canada

Sep 2019 – May 2023

University of Toronto

Master of Science in Applied Computing

Toronto, Canada

Sep 2026 – Jan 2028 (Exp.)

SKILLS

Languages: Python, SQL, Java, Bash, Scala, R

Cloud: GCP, AWS

Data & ML Tools: Airflow, Hadoop, Spark, Apache Beam, Trino, dbt, Kafka, Pandas, PyTorch, LangChain, Chroma

DevOps: Terraform, Makefile, YAML, Docker, Poetry, Kubernetes

CERTIFICATE

- Google Cloud Platform -- Professional Data Engineer Certification
- Google Cloud Platform -- Professional Machine Learning Engineer Certification

WORK EXPERIENCES

Bell Canada

Montreal/Toronto, Canada

Data Engineering Developer II, Data Platform

Jun 2023 – July 2026

- Contributed to the design and implementation of a GCP-based **medallion data platform model**, helping define zone responsibilities, data quality standards, auditability, lineage, and governance patterns across business domains.
- Built reusable **SOR-to-RAW ingestion templates** for RDBMS, Salesforce, ServiceNow, SharePoint, and file-based sources, reducing new source onboarding effort **by 70%**.
- Designed and implemented a **Spark-based RAW-to-STD transformation framework** in GCP with metadata-driven processing, schema validation, audit tracking, and upsert support, reducing engineering effort **by 70%**.
- Built a manifest-driven **Data Platform Self-Serve Agent** using Gemini 3.1 Pro to guide users through pipeline creation, validate configurations, generate templates, and recommend data quality rules.
- Implemented an **RAG system** for Response to Financial Proposals, reducing manual effort **by 20%**.
- Led the Unit Cost Project, integrating **10+ high-volume data sources** for finance and network provisioning teams; delivered insights that reduced network provisioning costs **by 20%**.
- Developed **Terraform-based IaC templates** and **CI/CD workflows** for GCP data pipelines, enabling secure deployments across dev, staging, and prod while reducing data product build time **by 60%**.
- Managed and optimized **100+ production data pipelines** with observability, alerting, and failover strategies to ensure reliable, low-latency data delivery.

McGill University

Montreal, Canada

AI Research Assistant

Jun 2022 – Feb 2023

- Led research on **fairness in recommender systems**, introducing a novel metric to measure **attribute-wise popularity bias and its impact on producer demographics**.
- Explored **policy generalization in multi-agent reinforcement learning**, applying the **Model Agnostic Meta-Learning algorithm (MAML)** to improve training **convergence speed** in decentralized environments.

PUBLICATIONS

- Rui Song*, W Li*, Z Li, H Liu, G Zhang, D Jiao, Z Tang, B He, H Wu, X Liu, Y Yuan. “**MINER: Mining Multi-Modal Internal Representation for Efficient Retrieval**”. - arXiv preprint, arXiv: 2605.06460
- Y Yuan, Rui Song, W Li, Z Li, H Liu, X Kong, C Han, Y Yang, Z Zhao, Z Dong, F Lyu, B He, H Wu, J Kang, X Liu. “**QUACK: Questioning, Understanding, and Auditing Communicated Knowledge in Multimodal Social Deduction Agents**”. - *EMNLP 2026 Main Conference*, arXiv:2605.27068
- H Liu, W Li, Rui Song, Z Li, CJ Xue, XY Liu, S Nallaperuma, X Liu, Y Yuan. “**CARE: Privacy-Compliant Agentic Reasoning with Evidence Discordance**”. - *EMNLP 2026 Finding*, arXiv:2604.01113.
- Y Yuan, W Li, Rui Song, Z Li, H Liu, X Kong, Z Dong... “**Discrete Diffusion Models: A Unified Framework from Tokenization to Generation**”. - arXiv preprint, arXiv:2607.13431