

# David Jiang-Gorsline

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## PROFESSIONAL SUMMARY

**Senior Applied AI & Data Science Lead** with 8+ years architecting **large-scale forecasting and decision systems**, from leakage-safe evaluation and scalable data pipelines to production operations. Deep experience in **time-series forecasting (classical + ML)**, **TSFMs (Salesforce Moirai, IBM Tiny Time Mixer)**, and **Google Cloud (Vertex AI)**. Proven track record of navigating **high-ambiguity environments**, ship reliable & high-signal products (99.9% uptime, <30-min MTTR), and delivering measurable outcomes (e.g., \$1.4M/year savings, 90% workflow time reduction, 70% faster experimentation). Waterloo B.Math **Valedictorian**; USC M.S. Analytics (Alpha Pi Mu **Honour Society**).

## TECHNICAL SKILLS

- **Forecasting & Stats:** Time-Series (Classical & ML), Foundation Models (Moirai, TTM, TimesFM), A/B Testing, Time Series Cross Validation, Error Analysis (MAPE/WAPE/Bias), Uncertainty Modeling.
- **AI/ML & GenAI:** Supervised Learning, Ranking & Retrieval Systems, LLM Evaluation (LLM-as-a-Judge), RAG.
- **Engineering & Cloud:** Python (Expert), SQL (BigQuery, Spark SQL), GCP (Vertex AI, GKE, Kubeflow), Databricks/Spark, Docker/Kubernetes, CI/CD, MLOps, Distributed Systems (500+ cores scale).

## EXPERIENCE

**RBC Capital Markets**, Global Research & Quant Tech Services (Elements Research) Toronto

*AD/VP - Tech Lead, Data Science (Jan 2025 - Present) | (Senior)Data Scientist (Feb 2023 - Dec 2024)*

*Spearheaded a 6-person team delivering high-scale AI products and forecasting infrastructure for Global Research.*

- **Scalable Forecasting Platform:** Architected a leakage-safe experimentation stack on Databricks using **500+ cores** to process **650k+ features**. Sped up experimentation by 70%, accelerating research for macro forecasting.
- **Foundation Models for Time-Series:** Benchmarked **Salesforce Moirai** and **IBM Tiny Time Mixer** against classical baselines on FRED database; leveraged zero-shot capabilities to improve forecast accuracy during regime shifts.
- **Evaluation Rigor:** Designed a strict leakage proof data discipline for non-stationary time-series, implementing walk-forward validation and regression checks that eliminated look-ahead bias and improved model-rollout confidence.
- **High-Availability MLOps:** Standardized production delivery for 7 critical web apps on Kubernetes, establishing CI/CD and incident playbooks that sustained **99.9% uptime** and a **<30-minute MTTR**.
- **GenAI Product Impact:** Engineered "QuickTake," a RAG-based summarization engine for 1,500+ earnings calls/quarter; achieved **<1% hallucination rates** and reduced analyst manual synthesis time by **90%**.
- **Stakeholder Leadership:** Partnered with analysts to translate ambiguous market questions into publishable products; drove **>50% YoY growth** in output and contributed to RBC's **#1 North America Research** ranking.

**Ernst & Young**, Advanced Analytics & AI

Toronto & Montreal

*Senior AI Consultant (Feb 2022 - Feb 2023) | Staff AI Consultant (Feb 2021 - Feb 2022)*

*Led enterprise-scale AI deployments on Google Cloud with a focus on reusable infrastructure.*

- **Google Cloud Standardization:** Architected GCP ML infrastructure patterns using **Vertex AI, Feature Store, and Kubeflow**; adopted as the client's gold standard for sales support AI, accelerating client data-driven-sales initiatives.
- **Operational Optimization:** Developed an LLM-inspired NLP pipeline for document intelligence, reducing cycle time from 16 weeks to 5 days and generating **\$1.4M/year in manual cost savings**.
- **Performance Excellence:** Ranked in top **1.3% firm-wide** (Strategic Impact) for technical leadership and the ability to execute high-complexity, high-ambiguity projects under aggressive timelines.

**USC Information Sciences Institute**, AI2 - Machine Common Sense

Los Angeles

*LLM Research Programmer (Jan 2020 - Aug 2020)*

- **Model Efficiency:** Implemented data-distillation methods for RoBERTa-based reasoning, preserving SOTA performance while reducing fine-tuning compute requirements by **80%**.
- **Evaluation Rigor:** Built reproducible evaluation pipelines focused on benchmark repeatability and robustness testing; adopted across the lab to improve experiment reliability and code quality.

## EDUCATION & TECHNICAL PROJECTS

**M.S. Analytics (LLM focus)**, University of Southern California (Alpha Pi Mu Honour Society), 2020

**B.Math. C&O & Mathematical Finance/Speech Communication**, University of Waterloo (Valedictorian), 2019

**Forecasting Benchmarking:** Nixtla aligned evaluation harness comparing classical models to TSFM on FRED data.