

Tom Chen

Backend, Data & Market Systems Engineering

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PROFILE

Backend and data engineer working with Python, APIs and SQL databases. Contract part-time contributor at Lomidance, with independent projects in market data and financial research.

TECHNICAL SKILLS

Backend: Python, FastAPI, REST APIs, PostgreSQL, SQLAlchemy, Alembic

Data: SQL, TypeScript, WebSocket, Parquet, DuckDB, Pandas, NumPy

Systems: Linux, Git/GitHub, Cloudflare Workers, D1, validation and testing

ENGINEERING EXPERIENCE

Lomidance | May 2026 - Present

Backend & Data Engineer | Contract Part-time

- Develop Python/FastAPI backend services and PostgreSQL models with SQLAlchemy and Alembic.
- Integrate external AI generation services; validate API contracts, application data flows and failure handling.
- Contribute focused tests and coordinate backend/frontend changes through shared Git/GitHub and deployment workflows.

INDEPENDENT PROJECTS

Microstructure Discovery Factory | August 2026 - Present

Independent Researcher | Market Data & Systems

- Built multi-exchange market data collection, storage, validation and replay with Python, TypeScript, Parquet and DuckDB.
- One documented FOMC capture: 12/12 lanes, 653,722 L2 updates and 4,339,527 trades; observed approximately 68% displayed BTC/ETH depth contraction.

Situation Monitor / Market Context Engine | 2025 - Present

Independent Product & Research Project

- Built a dashboard organizing financial news, economic events and market context with source-linked records, historical selection and Cloudflare Workers/D1 persistence.

Quantitative Portfolio Optimization | 2025 - August 2026

Independent Project

- Compared Markowitz, Black-Litterman, Risk Parity and CVaR methods using Monte Carlo-style tests, scenario analysis and sensitivity to risk and transaction-cost assumptions.

VOLUNTEER EXPERIENCE

Transcommon | September 2026 - Present

Translation Quality Review Volunteer

- Review translated documents for accuracy, completeness, terminology consistency and meaning preservation; flag omissions and requirement mismatches.

EDUCATION

University of Toronto Mississauga

Bachelor of Commerce | April 2025

HOBBY

Golf - playing regularly since high school.