

Rui Du

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EXPERIENCE

Tower Research Capital

July 2024 – Present

Software Engineer II — MFT Platform

Montreal, Canada

- Architected a high-throughput execution service in [Rust](#) with [gRPC](#) and [Postgres](#), **reducing onboarding to first trade time by 6x** and **simplified production setups** with shared infrastructure.
- Developed [gRPC](#) client libraries in [C++](#) and [Python](#), automated tests, releases, and documentation generation in [GitLab CI/CD](#), **increasing release reliability** and driving **seamless end-user adoption**.
- Built a monitoring system for intraday trading in [Rust](#) using [Axum](#), [Postgres](#), and [TimescaleDB](#), providing real-time metrics and alerts for **rapid detection and diagnosis of execution anomalies**.
- Deployed observability stack with [Kubernetes](#), [Helm](#), [OpenTelemetry](#), [Prometheus](#), [Tempo](#), and [S3](#) object storage, providing **latency metrics, distributed tracing, and performance monitoring** in [Grafana](#) dashboards.
- Mentored junior engineers, accelerating onboarding, knowledge transfer, and team productivity.

Tower Research Capital

June 2023 – Aug. 2023

Software Engineer Intern — Software Engineering for Operations

Montreal, Canada

- Developed a production support chatbot using [Rasa](#), [Llama](#), [LangChain](#), and [GraphQL](#) to query production instances in real-time, **cutting support workload by 2x**.
- Trained NER and intent classification models on support Slack threads to increase model accuracy.
- Automated dependency updates in GitLab using [Renovate](#), **improving codebase maintainability**.

Morgan Stanley

May 2022 – Aug. 2022

Technology Summer Analyst — ML Research Platform

Montreal, Canada

- Developed a full-stack ML competition platform using [Streamlit](#), enabling **firm-wide model prototyping**.
- Built data pipelines with teams managing terabytes of data, **improving data availability for ML projects**.
- Deployed the application with [Docker](#) and automated release pipelines in [Jenkins](#).

EDUCATION

McGill University

May 2024

Bachelor of Engineering - Mechanical & Software Engineering

Montreal, Canada

- Awards:** \$15,000 scholarship awarded to the top 15% of engineering students

PROJECTS

Dot Deck: Trading Data Visualization | *Plotly Dash, Pandas, HTML, CSS*

Jan. 2023

- Won **1st place** for both DRW and National Bank challenges at ConUHacks VII (30+ submissions).
- Led a team of 4 to build an interactive dashboard analyzing 200,000+ trading messages using [Plotly Dash](#).
- Integrated anomaly detection via statistical analysis to automatically flag outlier trades.

FitGarage | *React, Django, Postgres, Heroku, Supabase, Robot Framework*

Sep. 2022

- Technical lead for a team of 10 building a platform for booking workout classes using [React](#), [Django](#) and [Postgres](#) database, and deployed it using [Heroku](#) and [Supabase](#).
- Automated tests using [Robot Framework](#), ensuring code quality.

TECHNICAL SKILLS

Languages: Rust, Python, C++, Java, JavaScript/TypeScript, SQL, Bash

Frameworks/Tools: Axum, tokio, Django, FastAPI, Flask, Linux, Git

DevOps/Cloud: Docker, Kubernetes, Helm, GitLab CI/CD, OpenTelemetry, Prometheus, Grafana, Tempo, S3

Data/ML: Postgres, Kafka/Redpanda, Pandas, Polars, PyTorch, Transformers, scikit-learn