Aditya Patel

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SKILLS

Programming Languages: Python, C/C++, TypeScript, Go, C#, JavaScript, SQL
Technologies: React, Node.js, Django, ASP.NET, Vue.js, Ruby on Rails, TensorFlow, PyTorch, GitHub Actions, Datadog
Tools: Git, Docker, AWS, Kubernetes, Temporal, Terraform, Apache Airflow, Kafka, Spark, MongoDB, PostgreSQL, Redis, Linux

EDUCATION

Toronto Metropolitan University (Ryerson University)　　　　　　　　　　　　**September 2021 − April 2026**
Bachelor of Science (Hons.), Computer Science (Co-op)　　　　　　　　　　　　　　　　　　　*Toronto, ON*

- **Courses**: Networks, Database Systems, Operating Systems, Machine Learning, Data Structures & Algorithms, Computer Security
- **Certifications**: Advanced Learning Algorithms – Stanford University (Certificate)

EXPERIENCE

Wealthsimple | *Software Engineering Intern*　　　　　　　　　　　　　　　　　　**May 2025 − August 2025**

- Building scalable backend systems and data infrastructure for applied algorithmic investing under the Order Generation team.

Wealthsimple | *Software Engineering Intern*　　　　　　　　　　　　　　　　　　**May 2024 − August 2024**

- Engineered trading algorithm optimization by developing new **distributed data infrastructure** with **AWS** Redshift & S3, built **ETL pipelines**; orchestrating **500+ containers** on **Kubernetes** for batch multi-processing, cutting execution runtime by **80%**
- Developed end-to-end **full-stack simulation platform** using Ruby on Rails, React, TypeScript & **Python GraphQL servers**, boosting processing throughput by **65%** and integrating Datadog & Preset for real-time order generation monitoring
- Served as **technical owner (DRI)** for **simulation platform**, enabling **7 minutes** trading experimental runs; Led alignment meetings with **4+ teams** to optimize systems that manage movement of **$12+ billion**, providing **3x lower** market-fluctuation reaction time

Royal Bank of Canada | *Software Engineer Intern (12 months)*　　　　　　　　　　**May 2023 − April 2024**

- Architected distributed **log parsing infrastructure** for enterprise **DevOps CI/CD pipeline**, using **Python, Kafka, Spark**, AWS, PostgresSQL and Elasticsearch, reducing multi-region deployment time by **45%**, streaming real-time deployment insights data
- Built Helios **AI tool** for deployment data insights, by developing **RAG system** using LangChain agents, **fine-tuning LLMs** (Mistral-40B, Llama2) on-prem AWS SageMaker & vector database **embeddings**, reducing mean time-to-resolution by **53%**
- Developed and deployed **10+ robust ETL pipelines** for distributed DevOps data ingestion, leveraging Apache **Airflow DAGs**, to optimize **generating datasets** with **82%** lower latency, enabling scalable **ML model training infrastructure** for data platform

Scotiabank Capital Markets | *Trading Floor Software Developer Intern*　　　　　　**May 2022 − August 2022**

- Engineered high-performance **C# API Server** using asynchronous low-latency programming for JSON-to-Excel conversion, automating **post-trade logging**, boosting reliability by **40%** by optimized ALB load balancing, plus configurable depth parsing
- Built end-to-end **full-stack application** with ASP.NET, **C#** and React for internal communications on trading floor, integrating role-based access authentication, optimized load balancing and deployed internally with **60,000+** monthly interactions
- Constructed a financial data validation and correction **internal web tool** using ASP.NET, C# and jQuery, enabling efficient validation of Excel/CSV files with customizable configurations, helping traders to trace and resolve bulk data issues in under **5 minutes**

TO-Thrive (tothrive.ca) | *Lead Full-Stack Developer*　　　　　　　　　　　　　　**October 2021 − February 2022**

- Architected & developed **web systems** for TO-Thrive **e-commerce stealth startup** incubated under Enactus TMU, utilizing Spring Boot, React & MongoDB database while collaborating with an agile development approach

PROJECTS

Just-Servers (GitHub) - Low-level **Golang** network servers (TCP|UDP network protocol), orchestrated on AWS EC2 using Terraform.

DeskGenius (Website) - Frontend 3D rendering engine using React Three-Fiber for visualizing desktop setups in a virtual 3D space.

Continuesage (GitHub) - Backend LangChain RAG server for Continue.dev, serving inference on LLMs hosted via AWS SageMaker.

Petroforecast (GitHub) - Full-Stack ML app to predict US heating oil futures via 20+ years of time-series data.