

Aditya Patel

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EDUCATION

Toronto Metropolitan University

Toronto, ON | Sep 2021 – April 2026

Bachelor of Science (Honours), Computer Science Co-op

- **Dean's Honours List** - awarded in every academic term
- **Relevant Courses:** Algorithms, Unix, C & C++, Operating Systems, Probability, Statistics, Software Engineering
- **Certifications:** Supervised Machine Learning, by Stanford Online & DeepLearning.AI (bit.ly/4agMpMY)

PROFESSIONAL EXPERIENCE

Software Engineering Intern | [Wealthsimple](#)

Toronto, ON | May 2024 – Sep 2024

- Trade Order Generation - Data Science Team

Software Engineering Intern | [Royal Bank of Canada](#)

Toronto, ON | May 2023 – Apr 2024

- Superheaded development of RBC's Helios AI autopilot extension, powered with fine-tuned Mistral Instruct-7B & GPT-4 LLMs hosted on-prem AWS, employing RAG architecture with LangChain FastAPI backend and TypeScript webview GUI, integrated with vector database embeddings, delivering AI-driven software development assistance
- Architected log parsing system infrastructure for GitHub Actions CI/CD pipeline with Python, Apache Spark, Kafka, AWS S3 and PostgreSQL optimizing 78% faster log analysis and streaming real-time actionable pipeline deployment data
- Developed full-stack dashboards for DevOps DORA & SPACE metric insights, leveraging micro-frontend architecture in React and Typescript, utilizing Django backend alongside algorithmic computations, improving enterprise leadtime by 32%
- Built and managed multiple Python ETL pipelines for scheduled distributed systems data collection and calculations, streamlining Elasticsearch integration through Apache Airflow, yielding 82% low latency efficiency improvements

Software Developer Intern (Trade Floor) | [Scotiabank GBM](#)

Toronto, ON | May 2022 – Sep 2022

- Built scalable full-stack email communication tool using ASP.NET, C# and jQuery to store and manage Scotiabank's internal employee communication emails, accommodating over 60,000 monthly site traffic and deployed internally
- Engineered an advanced JSON to Excel conversion web application for automating secure and efficient trade logging, achieving 27% reduced latency than MSFT API, alongside multiple product features like multi-threading computations, varying depth parsing and robust security features making it an integral tool for the capital markets trading team
- Collaborated on a backend C# REST API SSH-File-Transfer, following SDLC, leveraging SCP and SFTP protocols, facilitating encrypted file transfer between remote UNIX servers, achieving significant 38% accelerated processing rate
- Created a data validation and correction tool using React.js, ASP.NET and C#, enabling efficient validation of Excel and CSV files with customizable configurations, enabling traders to trace and resolve bulk data issues swiftly

Lead Software Developer | [TOThrive Startup](#)

Toronto, ON | Oct 2021 – Feb 2022

- Conceptualized and architected scalable web applications, for an e-commerce start-up incubated under Enactus-TMU, utilized React.js, Flask and leveraged SQLite3 database, collaborating with an agile development approach
- Articulated technical challenges and effective solutions to facilitate understanding among engineers & stakeholders

SELECTED PROJECTS

DeskGenius (deskgenius.vercel.app) | *React.js, Three.js, Vector Geometry, Tailwind CSS*

June 2023

- Frontend 3D rendering engine, using Next.js and Three-Fiber, for visualizing desktop setups before purchasing
- Utilizes graphic ray tracing, texture mapping and advanced algorithms to optimize rendering performance and reducing computational overhead, resulting in a highly responsive UI vectorspace and immersive user experience, all open sourced

PetroForecast (thisisadityapatel/astroforecast) | *React.js, FastAPI, Docker Compose, SQLite3*

May 2023

- Full-stack machine learning app to predict and analyze US heating oil futures, alongside time-series regression
- Utilizes Prophet library for time-series regression and containerized using docker-compose for easy installation and testing

ContinueSage Endpoint (thisisadityapatel/continueSageEndpoint) | *LangChain, FastAPI*

Nov 2023

- Python API backend using LangChain for [Continue.dev](#) vs-code extension to support LLMs hosted via AWS SageMaker

PROGRAMMING SKILLS

Languages: Python, C++, C, C#, Java, TypeScript, JavaScript, SQL, NoSQL, KQL, GraphQL, HTML, CSS, Unix
Frameworks: React.js, Node.js, Django, ASP.NET, Next.js, LangChain, Redux, Flask, Vue.js, jQuery, Tailwind, Bootstrap
Tools: Docker, Git, GitHub, Kubernetes, AWS, OpenShift, Airflow, Kafka, Spark, MongoDB, Elasticsearch, Pandas, NumPy