

Aditya Patel

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EDUCATION

Toronto Metropolitan University

Toronto, ON | Sep 2021 – May 2026

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

- **Relevant Courses:** Algorithms, Unix, C & C++, Operating Systems, Probability, Statistics, Software Engineering
- **Certifications:** Supervised Machine Learning, by Stanford Online & DeepLearning (<https://bit.ly/4agMpMY>)

PROFESSIONAL EXPERIENCE

Software Engineering Intern | Wealthsimple

Toronto, ON | May 2024 – Sep 2024

- Large Language Models & ML - Data Products Team

Software Engineering Intern (12 Months) | Royal Bank of Canada

Toronto, ON | May 2023 – Apr 2024

- Superheaded development of RBC's in-house VS-Code AI autopilot extension, powered with Falcon-40B, GPT-4 and Mistral Instruct-7B LLMs hosted on AWS, employing LangChain RAG architecture with FastAPI backend and TypeScript VS-Code 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 38% faster log analysis and streaming real-time actionable pipeline deployment data
- Developed full-stack dashboards leveraging micro-frontend architecture in React.js and Typescript, utilizing Django backend alongside algorithmic computations for DevOps DORA insights, improving enterprise leadtime by 32%
- Built and managed multiple Python micro-service DAGs for scheduled distributed systems data collection and calculations, streamlining Elasticsearch integration through Apache Airflow, yielding 82% low latency efficiency improvements

Trade Floor Software Developer Intern | Scotiabank GBM

Toronto, ON | May 2022 – Sep 2022

- Built scalable full-stack email communication tool using ASP.NET, C#, jQuery etc, to store and manage Scotiabank's internal employee communication emails, accommodating over 60,000 monthly site traffic and deployed internally
- 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
- 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
- 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

Software Developer | TOThrive Startup

Toronto, ON | Oct 2021 – Feb 2022

- Conceptualized and architected responsive and scalable web applications, in an Agile environment, for an e-commerce start-up incubated under Enactus-TMU, utilized React.js, Flask and leveraged SQLite3 database
- Effectively articulated technical challenges and solutions to facilitate understanding among engineers & stakeholders

PROJECTS

DeskGenius (<https://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 reducing computational overhead, resulting in a highly responsive UI and immersive user experience, uploaded to open source

PetroForecast ([thisisadityapatel/astroforecast](https://thisisadityapatel.github.io/astroforecast/)) | FastAPI, React.js, Docker Compose, SQLite3

May 2023

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

Continuedev Sagemaker Endpoint ([thisisadityapatel/continueSageEndpoint](https://thisisadityapatel.github.io/continueSageEndpoint/)) | LangChain

Nov 2023

- **Python API using LangChain** for [continue.dev](https://github.com/continuedev/continue) extension to support LLM models hosted via AWS Sagemaker

PROGRAMMING SKILLS

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