Aditya Patel

6478923968 | adityakdpatel@gmail.com | linkedin.com/in/thisisadityapatel | github.com/thisisadityapatel | Toronto, ON
www.aditya-patel.com

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, C & C++, Software Engineering, Operating Systems, Probability, Statistics, Algebra
- **Certifications**: Supervised Machine Learning, by Stanford Online & DeepLearning.AI (bit.ly/4agMpMY)

PROFESSIONAL EXPERIENCE

Software Engineering Intern | Wealthsimple *Toronto, ON* | **May 2024 − Aug 2024**

- Engineered trading algorithm optimization by migrating data source infrastructure from AWS Redshift to S3, utilizing Airflow DAG ETLs; implemented Kubernetes clusters for orchestrated batch processing of chunked data, achieving a massive 60% reduced latency
- Led as Primary Technical DRI for trade order generation simulation platform, designing solutions for experimental algorithm runs, with configurable feature flags and real-time insights dashboard, enabling traders to fine-tune algo behavior with 85% efficiency
- Developed a full-stack web application for simulation platform using Ruby on Rails backend, React Native & TypeScript frontend, and Python microservices, integrated with Datadog and Preset dashboards for performance monitoring and report analysis
- Collaborated in a dynamic environment, contributing to deliver high-quality software solutions for complex problems programmatically

Software Engineering Intern (12 months) | 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 (Trading Floor) | Scotiabank Capital Markets *Toronto, ON* | **May 2022 − Aug 2022**

- Built scalable full-stack email communication tool using ASP.NET, C# and React.js to store and manage Scotiabank's internal trader communication emails, accommodating over 60,000 monthly site traffic and deployed internally
- Engineered a high-performance JSON to Excel conversion web application to automate secure trade logging, achieving 40% reduced latency versus MSFT API, and featuring batch multi-processing, configurable depth parsing, real-time data validation dashboard
- 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 internal tool using ASP.NET, C# and jQuery, enabling efficient validation of Excel and CSV files with customizable configurations, enabling analysts and 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 Java Spring Boot, React.js and leveraged SQLite3 database, collaborating with an agile development approach
- Articulated technical challenges and effective solutions programmatically 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 in virtual 3D space 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/petroforecast) | *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 server using LangChain for Continue.dev vs-code extension to support LLMs hosted via AWS SageMaker

PROGRAMMING SKILLS

Programming 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 CSS, Bootstrap
Tools: Docker, Git, GitHub Actions, Kubernetes, AWS, OpenShift, Airflow, Kafka, Spark, MongoDB, Elasticsearch, Pandas, NumPy