ADITYA PATEL

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EDUCATION

Bachelor of Science in Computing Science — Edmonton, AB
University of Alberta — *Expected Graduation: 2027*

Relevant Courses: Introduction to File and Database Management | Algorithms | Machine Learning | Computer Organization and Architecture | Introduction to Software Engineering

EXPERIENCE

AI Software Developer Intern — Lesotho, South Africa (Remote)
JuliGerm — *Apr 2025 - Aug 2025*

- Designed and maintained AI-powered backend systems on Microsoft Azure to analyze agricultural and satellite data, increasing system scalability and reducing downtime by 30%.
- Built a custom search engine to monitor crop health, soil quality, water usage, and weather data, reducing farmers' manual tracking effort by 40% and improving decision-making speed.

AI, Software Developer — Edmonton, AB
MedXAI — *July 2024 - August 2025*

- Achieved 90% forecast accuracy by implementing Python-based generative and classification models on COVID-19 data, which improved hospital resource planning by enabling patient load predictions up to 2 weeks earlier.
- Built interactive dashboards to visualize real-time and forecasted trends, and analyzed 100+ datasets to enhance model trust and accuracy, reducing researcher reporting time by 25%.

ML, Web Development Intern — Edmonton, AB
UAIS (Undergraduate Artificial Intelligence Society) — *January 2024 - April 2024*

- Delivered 85% accurate industrial risk analysis by deploying NLP pipelines, reducing manual review workload by 40% and improving prediction reliability by 20% and improving model runtime by 10%.
- Automated report generation with OpenAI API and applied PCA with feature scaling on large datasets, cutting client delivery time by 40%.

PROJECTS

Mood Tracker Android App | Java, Android SDK, Firebase, Google Maps SDK — Edmonton, AB
Team Project | Github Repo: github.com/cmput301-w25/project-kernelcrew — *April 2025*

- Built a mood-tracking Android app with geotagged pins, custom timestamps, and offline sync, enabling 100+ users to reflect on emotions more consistently.
- Implemented authentication, social following, and notifications in a 6-member Agile team, increasing daily log completion rates by 25% during testing.

BearBazaar: Campus Marketplace | React.js, Express.js, Prisma, SQLite, Node.js, REST API — Edmonton, AB
HackED 2025 | Github Repo: github.com/adityadipakpatel/BearBazaar — *February 2025*

- Developed a full-stack marketplace with React.js frontend and Express.js + Prisma backend, supporting secure listings and messaging for 200+ students.
- Optimized SQL queries and REST APIs, reducing average response time by 20% and ensuring reliable real-time updates across the platform.

ConsoleTweeter: CLI Social Platform | Python, SQLite, MongoDB — Edmonton, AB
Team Project | Github Repos: SQLite · MongoDB — *December 2024*

- Engineered a command-line social platform with authentication, tweeting, search, and following, tested on 200+ sample tweets across SQL and NoSQL backends.
- Implemented hashtag parsing and user filters, improving search precision and user navigation efficiency by 30%.

MatchHire: Resume Builder | Python, JavaScript, ChatGPT API, PdfLatex API — Edmonton, AB
GHacks 2024 — *August 2024*

- Led a 4-member team to create a resume parser and LaTeX PDF generator, allowing users to auto-generate resumes via a web interface.

- Integrated LLM APIs with Python and PdfLatex, reducing manual formatting time by 80% and increasing resume creation efficiency.

RareQuest: Disease Awareness Game | HTML, CSS, JavaScript — Montreal, QC
Code to Give (Morgan Stanley) 2024 | Github Repo: github.com/adityadipakpatel/RQMO12 — *May 2024*

- Created a browser-based game to raise awareness of rare diseases, engaging 50+ players through interactive diagnosis challenges.
- Optimized JavaScript game logic and database operations, cutting load time by 20% and improving player retention.

Sign Language Detector | OpenCV, TensorFlow, Python, Jupyter Notebooks — Edmonton, AB
HackED 2024 | Github Repo: github.com/adityadipakpatel/Sign-Language-Detector — *January 2024*

- Built a real-time sign language detection app with TensorFlow and OpenCV, translating gestures into text with 90% accuracy.
- Reduced recognition latency to under 200ms per gesture, enabling faster digital communication for Deaf and Mute individuals.

Extracurricular Projects

CryptoHash: Cryptographic Algorithm (SHA256) Implementation | Python, Cryptography, Cybersecurity

- Implemented the SHA256 hashing algorithm in Python to generate 256-bit hash values, strengthening understanding of applied cryptography and secure coding practices.
- Validated system-level integration by ensuring compatibility with Unix/Linux SHA256 utilities, improving cross-platform reliability by 100%.

WeatherSage: Weather Data Retriever | Python, OpenWeatherMap API, JSON

- Built a Python-based tool to fetch, parse, and visualize real-time weather data from OpenWeatherMap API, automating retrieval across multiple locations.
- Processed and transformed JSON responses into structured outputs, reducing manual data lookup time by 80% and improving user accessibility.

SecureText: Text Encryption Utility | Python, Cryptography, Security

- Developed a two-passcode encryption and decryption system in Python, ensuring privacy and protecting sensitive text for end-users.
- Applied cryptographic algorithms to encode text into numeric strings and restore originals securely, maintaining 100% data integrity during transmission tests.

Technical Skills

Languages: Python, Java, C/C++, JavaScript, TypeScript, SQL, HTML/CSS
Frameworks & Libraries: ReactJS, NodeJS, ExpressJS, Redux, Django, Flask, PyTorch, TensorFlow, scikit-learn
Databases & Cloud: PostgreSQL, MySQL, MongoDB, Microsoft Azure, Amazon Web Services, Google Cloud Platform
Developer Tools: Git/GitHub, Postman, Docker, Android Studio, Linux, Windows