

Harveer Deol

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EDUCATION

University of Alberta <i>Bachelor of Science in Computer Science</i>	Sep. 2022 – Present Edmonton, AB
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EXPERIENCE

Software Developer <i>SAPAA (Stewards of Alberta's Protected Areas Association)</i>	Jan. 2026 – Present Edmonton, AB
<ul style="list-style-type: none">Evaluated 15+ cloud database platforms using cost analysis, scalability testing, and Google Workspace API compatibility to select a production-ready solution within nonprofit constraintsDesigned and executed a full Microsoft Access to PostgreSQL migration using SQL, Python migration scripts, schema normalization, and automated validation, reducing data synchronization errors by 95%Refactored an existing mobile safety inspection MVP by integrating PostgreSQL-backed historical data, updating business logic, and implementing revised inspection workflows used by field staffCreated technical documentation and led onboarding for 20+ users, presenting system architecture and migration outcomes to the board for production deployment approval	

Software Developer <i>Davidson Gregory Law Firm</i>	Sep. 2025 – Dec. 2025 Edmonton, AB
<ul style="list-style-type: none">Built an automated legal document review pipeline using Python, LangChain, and LLM APIs, reducing manual disclosure review time by 70%Developed a scheduled legal research automation system that retrieves, summarizes, and categorizes Canadian criminal cases from CanLII on a weekly basisImplemented an NLP-based transcript analysis tool to detect contradictions across witness statements and generate visual inconsistency reports for trial preparationDeployed secure AI workflows on AWS using encrypted storage and access controls to ensure compliance with solicitor-client privilege	

PROJECTS

Job Application Tracker <i>Next.js, React, PostgreSQL, AWS, LangChain</i>	Dec. 2025 – Jan. 2026
<ul style="list-style-type: none">Developed a full-stack web application using Next.js, React, and PostgreSQL to track job applications and analytics for 200+ active usersIntegrated a LangChain-powered resume optimization pipeline that analyzes job descriptions and dynamically matches user experience to role requirementsImplemented an event-driven notification system using AWS SNS and EventBridge to automate email and SMS follow-ups	

Transformer Language Model <i>Python, PyTorch, NumPy, React</i>	Jul. 2025 – Aug. 2025
<ul style="list-style-type: none">Implemented a transformer-based language model from scratch in PyTorch, including multi-head self-attention, positional encoding, and feed-forward layersTrained the model on 50M tokens using custom optimization and backpropagation logic, achieving 85% accuracyBuilt a React-based visualization interface to demonstrate text generation and attention weight distributions across model layers	

HTS Classification Tool <i>Python, LangChain, AWS, PostgreSQL, FastAPI</i>	Oct. 2025 – Nov. 2025
<ul style="list-style-type: none">Developed an AI-powered tariff classification system using retrieval-augmented generation (RAG) to classify international trade goods with 92% accuracyDesigned a vector embedding database enabling semantic search across 34,000+ tariff classificationsDeployed a scalable FastAPI backend on AWS, handling 1,000+ daily requests with sub-2-second latency	

TECHNICAL SKILLS

Programming Languages: JavaScript, Python, C, SQL, HTML, CSS
Software Engineering Practices: Object-Oriented Design, Debugging, Code Review, Testing, Documentation
Frameworks & Platforms: React, Next.js, Node.js, Express, FastAPI, LangChain, AWS
Databases & Backend: PostgreSQL, SQL Schema Design, Data Migration, REST APIs, GraphQL
DevOps & Tooling: Git, Docker, AWS, CI/CD Pipelines, Cloud Deployment, Environment Configuration