

# Dev Punjabi

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## EDUCATION

### University of Toronto

*Honours Bachelor of Science, Computer Science*

Toronto, Ontario

Sep. 2021 – Apr. 2026

- Relevant Coursework: Neural Networks and Deep Learning, Operating Systems, Scalable Computing, Computer Networks, Databases

## EXPERIENCE

### Periscope Capital

*Full-Stack Software Developer*

May 2024 – Present

Toronto, Ontario

- Eliminated a MySQL query bottleneck in C# data pipelines by rewriting query patterns and adding event-driven validation, reducing processing time from 3m+ to ~30s (6×) with no infrastructure changes.
- Automated classification and status tracking of security reorganizations, delivering personalized daily reports to 20 stakeholders across trading, operations, risk, and management, cutting manual reconciliation time by ~75%.
- Designed a generic, type-parameterized C# ingestion framework where each data source is a typed subclass with custom endpoint parameters, status checks, and row-level DTO mapping, polling 20,000+ records daily on AWS master-master infrastructure.
- Contributed to deploying a production MCP server (FastAPI + FastMCP) on ECS Fargate, supporting CI/CD pipeline setup, Entra ID JWT validation, and architecture review for a firm-wide Microsoft Copilot Studio integration exposing 155 tools over Periscope's database.
- Deployed a Next.js applications across dev and staging environments via a Bitbucket Pipelines CI/CD workflow, automating SCP-based artifact promotion and Cloudflare cache invalidation on each merge to main, with uptime monitoring and failure alerting.

### Scotiabank

*Software Developer Intern – Global Finance & Risk Technology*

Jun. 2023 – Aug. 2023

Toronto, Ontario

- Built an internal automation tool to promote scripts, DataStage jobs, and configuration files across dev, QA, and production Linux environments, reducing deployment stakeholders from 5 to 3 and replacing a fully manual, error-prone release process.
- Implemented a Bash and KornShell automation suite covering input validation, SFTP transfer, object import/export, and permission enforcement, scheduled with AutoSys for automated pipeline execution.

## PROJECTS

### S&P 500 SEC Filing Chat | *Python, FastAPI, Cohere, Qdrant, Next.js, Railway*

- Answers natural language queries about S&P 500 companies via a chat interface on devpunjabi.com, grounding responses in 10-K Risk Factors and MD&A sections across 11,395 chunks from 94 companies indexed in Qdrant.
- Retrieval combines Qdrant dense search and BM25 sparse search via Reciprocal Rank Fusion, reranked with Cohere, and passed to Command R+ in native citation mode so every answer traces back to a specific filing section.

### Antibiotic Resistance Classification | *Python, PyTorch, ResNet-1D | Team of 4*

- Trained a ResNet-1D model for multi-label protein sequence classification across 38 antibiotic resistance classes on CARD v4.0.1 (6,000+ sequences), achieving micro-F1 = 0.93, macro ROC-AUC = 0.98, and filtered macro-F1 = 0.89 on classes with sufficient training data.
- Prevented homologous sequence data leakage via organism-level train/val/test splits, mitigated severe class imbalance with Focal Loss (gamma = 2.0) and per-class threshold optimization, and applied global max pooling for invariance to variable-length sequences.

## TECHNICAL SKILLS

**Languages:** Python, TypeScript, JavaScript, C#, Java, SQL, Bash

**Frameworks & Libraries:** React, Next.js, Node.js, .NET, Entity Framework, FastAPI

**Databases:** MySQL, PostgreSQL, Microsoft SQL Server, Cassandra

**Cloud & DevOps:** AWS (EC2, S3, Lambda, CloudWatch, VPC, ECS), Docker, Bitbucket Pipelines, Vercel

**Data & ML:** PyTorch, Cohere, Qdrant, NumPy, Pandas, Matplotlib

**Tools:** Git, Bloomberg API, IBM DataStage, Jira