Justin Dhillon

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Education

Western University — London, ON
Bachelor of Science, Honours Computer Science – Minor in Software Engineering — *Expected April 2027*

Experience

Software Developer Intern – Mainframe — May 2025 – Present
Sun Life Financial — *Toronto, ON*

- Built Python automation to detect **SQL ERROR -905** timeout failures, capture the offending statement, and dispatch automated email alerts to the submitting user – eliminating manual triage entirely.
- Wrote post-deployment regression scripts in Python to validate critical mainframe systems after maintenance windows, preventing production-breaking issues from reaching end users.
- Collaborated with IBM engineers on Watsonx for Z integration, documenting deployment patterns and configuration decisions to support Gen AI rollout across the mainframe platform.
- Built proficiency in IMS, JCL, REXX, COBOL, SQL, and DB2 through hands-on enterprise work – applying batch processing, query optimization, and performance tuning at scale.

President & IBM Z Student Ambassador — April 2024 – Present
Western Cyber Society — *London, ON*

- Led a team of **10** developers to ship **2** full-stack projects integrating REST APIs with Docker, DB2, and IBM LinuxONE – managing sprints, code reviews, and delivery on deadline.
- Organized the **Canadian Tech Summit** (200+ attendees), owning end-to-end logistics, speaker coordination, and sponsorship – the largest student-run tech event at Western University.
- Ran IBM Z workshops for **50+** students and presented work to IBM leadership and major Canadian banks, directly helping members secure internship offers; invited to IBM Toronto and the Toronto Tech Expo.

Projects

RiskGuard | *Python, Java, COBOL, PyTorch, ONNX, LightGBM, IBM LinuxONE* — Sept 2024 – April 2025

- Designed a real-time fraud detection pipeline on IBM Z mainframe processing **10,000+** transactions/second with sub-**50ms** latency, achieving **97%** detection accuracy across **590,540** labeled transactions.
- Trained an ONNX-optimized LightGBM model with **431** engineered features; accelerated inference using Nvidia Triton on IBM LinuxONE, delivering a **30%** throughput improvement over baseline.
- Built automated preprocessing pipelines (imputation, normalization, encoding) to clean raw transaction data, improving classification efficiency by **20%** and eliminating manual data prep.

Virtual Pet Game | *Java, Swing, JSON, Jira, Git* — Sept 2024 – April 2025

- Architected a full-stack Java desktop game with a **MVC** design pattern – decoupling a Swing frontend from a backend game engine handling real-time pet state, inventory, and save/load persistence via JSON.
- Implemented a dual-timer system (5s stats decay, 10ms UI refresh) and parental controls with time-based access enforcement, enforcing session restrictions for child accounts.
- Delivered the project in a team of 4 using **Jira** for sprint planning and **GitHub** for version control and code reviews – simulating a full agile software development workflow.

EcoCoin | *React, Node.js, Firebase, Mapbox, Google Cloud* — Aug 2024

- Built a full-stack web app at TerraHacks that rewards users with cryptocurrency tokens for attending eco-friendly events, integrating **Mapbox** for real-time geolocation and event mapping.
- Architected a Firebase backend (Firestore + Auth) and Node.js API to handle user authentication, token transactions, and event tracking under a **24-hour** hackathon deadline.

Technical Skills

Languages: Python, Java, JavaScript, C++, SQL, COBOL
Web & Backend: React, Node.js, REST APIs, Firebase, Docker
Data & ML: PyTorch, TensorFlow, Scikit-learn, Pandas, NumPy, ONNX, LightGBM
Tools & Infrastructure: Git, Jira, Linux, AWS, IBM Mainframe (z/OS), DB2, IMS