

# Dhrumil Patel

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## SKILLS

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**Languages:** Python, C#, C, C++, PowerShell, JavaScript, Java, SQL, HTML, CSS

**Tools/Frameworks:** MS SQL, .NET Core, Jenkins, Git, Linux, React, Valgrind, TensorFlow, Keras

## EDUCATION

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**University of Toronto** B.A.S, Computer Engineering

Sep 2020 – May 2025

**GPA:** 3.74 / 4.0

**Relevant Courses:** Intro to Databases, Algorithms and Data Structures, Operating Systems, Software Communication & Design (**C++**), Intro to Computer Programming (**Python**), Distributed Systems (**Java**), Programming Fundamentals (**C**)

## EXPERIENCE

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**SOTI** – *Software Engineer (Backend) Intern*

July 2023 – Aug 2024

- **Contributed** significantly as a member of the Architecture team, applying **OOP** methodologies to design and enhance **C#** backend components for MobiControl, SOTI's flagship product
- Developed and refactored **RESTful APIs** using **ASP.NET**, implementing functionalities such as certificate parsing, application integration, and secure data exchange
- Spearheaded the migration from 'nunit-console' to 'dotnet test' for executing unit and integration tests in the **CI/CD** pipeline, enhancing reliability and reducing testing stage time by **30%** using **PowerShell** and **Jenkins**
- Deployed two internal desktop applications using C#'s Windows Forms GUI toolkit, utilized by hundreds of developers to automate workflows and repetitive tasks, resulting in increased productivity
- Built a data pipeline to deliver performance test metrics to **Grafana** using its API, leveraging **SQL** queries to transform and visualize insights in real-time on dashboards
- Wrote **BDD**, **Integration**, and **Unit** tests that ensured safe integration of components and improved code coverage

**FGF Brands** – *IT Security Intern*

May 2022 – Aug 2022

- Worked with another intern to create a remote door opener application with camera feed, using **JavaScript**
- Designed and implemented a network monitoring tool using **Python**, resulting in faster resolution of downtime incidents
- Planned and executed a targeted phishing simulation campaign to evaluate and rectify vulnerabilities

**Mitacs Globalink** – *Peer Mentor*

April 2022 – Nov 2022

- Hosted 8 undergrad students from 5 countries doing research internships at UofT
- Connected interns with relevant resources for a successful research term and provided weekly support

## PROJECTS (see more here [dhrumil0902.github.io/portfolio/#projects](https://dhrumil0902.github.io/portfolio/#projects))

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**Distributed Client-Server Data Storage (Java)**

- Collaborated in a team of three to design and develop a multi-server, client-based data storage solution that emulates a cloud-based storage system, allowing concurrent access to data by multiple clients
- Implemented synchronous data replication across servers to ensure fault tolerance, designed a consistent hashing algorithm to distribute the load across multiple servers and developed a **LRU cache** to decrease latency
- Configured network **sockets** for communication, implemented **multi-threading** for concurrent client handling, utilized **locks** to prevent race conditions, and designed custom communication protocol

**Whac-A-Alien Game (C)**

- Built from scratch in **C**, using **double pixel buffering**, **hardware interrupts**, and **graphics animations**
- Computer version of "whac-a-mole" carnival game, involving hitting aliens with a hammer using keyboard keys

**Stocks App (Python)**

- Developed a real-time stock information application using **Streamlit**, integrating Yahoo Finance, Twitter, and Reddit APIs to provide stock data, including target price, price-time graphs, and the latest tweets and discussions