

# NAKUL PATEL

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## EDUCATION

### Wilfrid Laurier University

Expected Graduation: April 2027

Bachelor of Computer Science (BCS) and Bachelor of Business Administration (BBA)

Waterloo, ON

- Courses: Software Engineering, Artificial Intelligence, Operating Systems, Algorithms and Analysis I, Data Structures I and II, Machine Learning, Computer Networks, Database I, Discrete Structures, and Object-Oriented Programming

## WORK EXPERIENCE

### Multiverse Computing — Machine Learning Engineer Intern

Sep 2025 – Dec 2025 | Toronto, ON

- Engineered a full end-to-end ML pipeline in **Python**—performing data cleaning, feature engineering, and chronological validation—to forecast player performance using **XGBoost** and **quantile regression** across 13 season-over-season targets.
- Developed probabilistic forecasting models by training **Gaussian-based XGBoost regressors** and running large-scale **Monte Carlo simulations** to generate uncertainty-aware multi-year trajectories suitable for risk-style scenario analysis.
- Applied **K-Means clustering** to segment simulated outcome distributions and deployed interactive **Streamlit apps** visualizing feature importance, reliability scores, and clustered scenario paths for model interpretability.
- Architected a production-grade analytics platform using a **Next.js** frontend and **FastAPI** microservice backend, exposing our ML pipelines through containerized inference endpoints and delivering a client-facing interface for player evaluation.

### Definity Financial Corp. — Automation Engineer Intern

Jan 2025 – Apr 2025 | Waterloo, ON

- Developed and maintained automated test scripts for mobile and web applications using **Java**, **JavaScript**, and **XML**, increasing test coverage by **35%** and reducing manual testing efforts by automating repetitive test cases.
- Integrated test suites into **CI/CD pipelines** with **Git**, reducing regression testing time by **40%**, enhancing deployment efficiency, and minimizing the risk of production defects through continuous validation and automated quality checks.
- Automated **JIRA** query extraction using **VBA**, streamlining sprint and release reporting by calculating key performance metrics and efficiency indicators, driving a **25% improvement** in release planning accuracy and cross-team visibility.

### Greater Stouffville Chamber — Data Analyst Intern

May 2024 – Aug 2024 | Stouffville, ON

- Automated recurring reporting tasks by integrating **SQL** queries with **VBA** scripts, streamlining data processing workflows and enabling leadership to make faster, more informed strategic decisions.
- Developed interactive dashboards with **Power BI** and automated ETL pipelines using **Python (Pandas)** and **SQL**, enabling real-time analysis of membership trends and driving a **20% improvement** in operational efficiency.

### Riipen Networks Inc. — Software Developer Intern

Jan 2023 – Apr 2023 | Toronto, ON

- Developed a cross-platform web application by building backend services in **Node.js** and running mobile tests in **Xcode**, collaborating with senior engineers through pair programming, Sprint planning, and UAT to deliver production features.
- Engineered high-performance UI components in **React.js** and **JavaScript**, improving responsiveness by **20%**, and automated workflows using **Python** and **Java** scripts—including a RegEx-based grading algorithm.

## PROJECTS

### Swish - NBA Game Predictor | GitHub

Python | Pandas | Scikit-Learn | XGBoost

- Developed an end-to-end ML pipeline for NBA outcome prediction using automated **data scraping**, engineered **performance features**, and an optimized **XGBoost classifier**, building reproducible Python modules that transform raw box score data into predictive inputs for high-quality win-loss forecasts.

### Echo - Spotify Stats Tracker | GitHub

Node.js | Express | React + Vite | Spotify Web API

- Developed a analytics platform integrating the **Spotify Web API** with a **Node.js** backend to orchestrate data retrieval and processing pipelines, powering interactive dashboards of listening patterns, top tracks/artists, and session-level insights.

## CERTIFICATIONS

### JP Morgan Chase Co. | Software Engineering Virtual Experience Program

Jan 2025

- Developed an interactive interface using **Perspective** and **Python** to provide live **stock price data** with a **live line graph**, improving data accuracy by **20%** and enabling real-time insights for informed investment decisions.

## TECHNICAL SKILLS

**Languages:** Python, Java, VBA, SQL, HTML5, CSS, JavaScript, C, C++

**Developer Tools:** AWS, Azure, Docker, Git, Jira, Power BI, GitHub, GitLab, CircleCI, Gradle, Linux/Unix, JupyterLab

**Libraries/Frameworks:** ReactJS, NextJS, NodeJS, Supabase, FastAPI, Pandas, Scikit, Tensorflow, PyTorch, Streamlit

**Hard Skills:** Artificial Intelligence, Machine Learning, CI/CD Pipelines, RESTful APIs, Cloud Architecture, Deep Learning

**Interests:** Music, Chess, Gym, Basektball, Travelling, Superheroes, Video Games, Meditation, Hiking