

# Radha Kotra

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## EDUCATION

### University of Waterloo

Bachelor of Computer Science - GPA: 3.9

Apr. 2027

## EXPERIENCE

### Software Engineer Intern | Kotlin, Java, C++

Sep. 2025 – Dec. 2025

Ford

- Reduced manual remediation time by **80%** and sped up code reviews by building a code quality tool integrating **SonarQube, OpenAI, Jira, and GitHub APIs** to detect issues, generate fixes, create tickets, and submit PRs
- Implemented user interface updates for towing app components using **Kotlin** in **Android AOSP**, translating **Figma** mockups into functional interfaces
- Improved test coverage by writing unit and UI tests using **JUnit, Mockito, and Robolectric**

### Software Engineer Intern | PHP, MySQL, JavaScript, HTML/CSS

Jan. 2025 – Apr. 2025

Caribou Contests

- Cut Contest Day Editor load time by **98%** (**90s → 2s**) by fixing HTML parsing and adding validation
- Enabled **parallel editing** for **10+** translators with conflict detection, eliminating overwrite errors
- Added multilingual audio playback using **WebSpeech API** for improved accessibility
- Reduced answer submission latency by **70%** by replacing full page reloads with async POST requests
- Secured **100%** of database queries with input sanitization and prepared statements, **eliminating injection vulnerabilities**

### Data Engineer Intern | Python, Perl, Wireshark

Jul. 2022 - Aug. 2022

Nokia

- Built an **unsupervised ML** tool using **k-means clustering** to detect anomalies in **1000+** customer network logs, enabling proactive troubleshooting
- Developed a **fuzzy matching heuristic algorithm** that increased correct statistic name matches by **26%**
- Normalized debug log data, improving downstream analysis consistency by **38%**
- Added **CSV/JSON** support to packet filtering script, enabling processing of **4** data formats

## PROJECTS

### Persimmon - Workout Planner & Tracker | React, Express.js, Node.js, PostgreSQL, Redis

- Built full-stack app integrating **Strava API** with custom **REST** backend for tracking and analytics
- Developed **ML-powered** recommendation engine to suggest personalized training plans based on user data
- Reduced Strava API calls by **72%** using **Redis** caching, improving dashboard load time
- Created interactive visualizations with **Recharts** for pace, distance, and heart rate trends
- Automated deployment with **GitHub Actions**; deployed backend on Render, frontend on Netlify

### Zone - Fitbit Heart Rate Zone Monitor | JavaScript, Fitbit SDK

- Built a Fitbit app that tracks **real-time heart rate** and triggers haptic feedback when outside target zones
- Integrated **Fitbit API** to process heart rate data and validate zones dynamically with on-device alerts
- Designed UI** for custom zone settings and live heart rate display

### Growth - Android Plant Growth Tracker | Kotlin, Jetpack Compose, FFmpeg, Room

- Developed app to track plant growth with **photo capture** and **time-lapse video** generation
- Managed data persistence with **Room** and automated video creation using **FFmpeg**
- Designed UI with **Jetpack Compose** and integrated **CameraX** for photo capture

## TECHNICAL SKILLS

Languages: C/C++, Java, Python, JavaScript, SQL, PHP, Kotlin, Perl

Technologies/Tools: React, Node.js, Express.js, Jetpack Compose, Room, Redis, FFmpeg, Git, Jenkins, n8n, Figma