# Raman Kumar

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## Technical Skills

**Languages**: Python, Java, C/C++, JavaScript, SQL (MSSQL, MySQL), HTML/CSS
**Frameworks & Libraries**: PySpark, scikit-learn, Pandas, NumPy, Jetpack Compose, Retrofit, Room
**Databases & Tools**: MSSQL, MySQL, MongoDB, Git/GitHub, VS Code, IntelliJ, Jupyter Notebook, MATLAB
**Operating Systems**: Linux (Ubuntu), macOS

## Projects

**MovieFinder** Code — *Swipe-based movie discovery app with personalized recommendations*
**Tools:** Kotlin, Jetpack Compose, MVVM, Retrofit, Room, TMDB API Sept 2025 – Present

- Developed an Android app with **Jetpack Compose** UI, swipe interactions, and smooth animations.
- Implemented **MVVM architecture** with repository pattern for clean state management.
- Integrated **TMDB API** for dynamic movie search, filters, genres, and recommendations.
- Improved UX by reducing search latency by **40%** via debounced queries and prefetching.

**MeetHalf** Code — *Fair meetup location planner using per-person travel modes and Google Maps APIs*
**Tools:** Next.js, TypeScript, Tailwind, Google Maps, Places, Directions API Oct 2025 – Present

- Built a full-stack web app that finds optimal meetup locations for **2–8+ people**.
- Implemented a **fairness algorithm** minimizing group average travel time across modes.
- Used **Google Places + Directions API** to compute real-time travel durations for each person.
- Optimized API usage with batched requests and caching for real-time multi-user travel calculations.

**ClimateTrend** Code — *Scalable pipeline for detecting global warming patterns across major world cities*
**Tools:** Python, PySpark, BallTree, Theil–Sen Regression Aug 2024

- Processed **4.5GB** of GHCN-Daily climate data across **92 cities** using a PySpark pipeline.
- Mapped stations to cities via **BallTree spatial indexing** within 100 km.
- Detected statistically significant warming in **84%** of cities ($p < 0.0001$).
- Applied **Theil–Sen regression** to compute robust long-term temperature trends.

**VisionStitch** Code — *Panorama generator using robust feature matching and image blending*
**Tools:** MATLAB, Computer Vision, RANSAC Nov 2024

- Implemented FAST corner detection from scratch with **500 features/image in 0.2s**.
- Achieved **60.7% inlier ratio** using RANSAC homography estimation (99.9% confidence).
- Generated seamless panoramas from 2–4 images using linear distance-weighted blending.

## Experience

**Banking Advisor** Nov 2018 – Oct 2021
*Royal Bank of Canada* *Vancouver, BC*

- Assessed client needs and delivered tailored banking solutions, maximizing cost-effectiveness and satisfaction.
- Surpassed sales targets by **20%** through strategic lending, risk analysis, and targeted portfolio diversification.
- Mentored new advisors, accelerating onboarding and strengthening client service and relationship skills.
- Led the **BC Children's Hospital (2020–21)** and **Employee Giving (2020)** campaigns via strategic planning and promotions.

## Education

**Simon Fraser University** September 2023 – December 2026
*Bachelor of Science, Computing Science* *Burnaby, BC*

**Langara College** May 2022 – December 2023
*Associate Degree, Computer Science* *Vancouver, BC*

- Cumulative GPA: **3.87/4.33**
- **Dean's Honor Roll**, Summer 2023