

# Rohithkumar Sridharan

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## EDUCATION

### University of Toronto

Toronto, ON

*Honours Bachelor of Science Co-op — Computer Science Specialist (Software Engineering)*

*Sep. 2023 – Present*

- Cumulative GPA: 3.79/4.0 | University of Toronto Scholar (\$7500)
- **Relevant Coursework:** Software Design (Java, Android, OOP, SOLID), Software Tools & Systems (C, Bash, Networking), Intro to Databases (PostgreSQL, SQL), Web Development (React, Node.js, REST APIs)

## TECHNICAL SKILLS

**Languages:** Java, Python, C, JavaScript, SQL, C++, C#, Bash/Shell, MIPS Assembly

**Frameworks & Libraries:** React.js, Next.js, Node.js, Express.js, Flask, Android SDK, JUnit, Mockito, Tailwind CSS

**Databases & Tools:** PostgreSQL, MongoDB, Docker, Git/GitHub, VS Code, Android Studio, Firebase, nginx

**APIs & Technologies:** REST APIs, OAuth, Google Gemini API, NewsData.io, Gmail SMTP, GitHub Actions

## PROJECTS

### InformedNow | *React, Next.js, Node.js, MongoDB*

Sep. 2025 – Dec. 2025

- Built and deployed full-stack web application that aggregates 1000+ daily news articles from 100+ countries using NewsData.io API with personalized content filtering based on user preferences and interests.
- Integrated Google Gemini API to generate AI-powered article summaries and historical context, enhancing user engagement and comprehension of complex news stories.
- Implemented secure authentication using GitHub OAuth and Express sessions with MongoDB store for session management, along with automated weekly newsletter delivery via Gmail SMTP API.
- Developed an interactive 3D globe visualization using Nominatim API to display geographically relevant headlines, styled with Tailwind CSS for responsive design.
- Deployed application using Docker Compose with nginx reverse proxy configuration and SSL certificates for production-ready infrastructure.

### StockTrade | *Python, Flask, PostgreSQL, JavaScript*

Nov. 2025 - Dec. 2025

- Developed a database-backed web application enabling users to manage stock portfolios, track 5 years of historical S&P 500 data, and predict future stock performance using statistical analysis.
- Designed and implemented optimized PostgreSQL database schema with 25+ indexes (covering, composite, partial) to reduce query execution time from  $O(n)$  to  $O(\log n)$  for portfolio statistics and stock price lookups.
- Built SQL-based analytics engine computing coefficient of variation, beta coefficients, and correlation matrices for portfolio risk assessment without pulling data to frontend.
- Implemented social networking features including friend requests with cooldown periods, stock list sharing with visibility controls (private/shared/public), and peer review system for investment strategies.
- Created interactive data visualizations for historical stock prices and future predictions across multiple time intervals (week, month, quarter, year, 5 years).

### Toronto Art Museum (TAAM) App | *Java, Android SDK, JUnit, Mockito, Scrum*

May 2024 – Aug. 2024

- Contributed to Agile team project following Scrum framework with sprint planning to develop Android application for organizing and managing museum artifact information.
- Implemented PDF report generation feature with customizable filtering options (keywords, time periods) for artifact documentation.
- Achieved full test coverage using JUnit and Mockito, ensuring robustness and maintainability of application codebase.

### MIPS Platformer Game | *MIPS Assembly*

Jan. 2025 – Apr. 2025

- Engineered a 2D platformer entirely in MIPS Assembly featuring custom physics engine, collision detection system, and optimized game loop for MARS Bitmap Display.
- Designed 3 progressively challenging levels with platforms, hazards, interactive pickups, power-ups (extra hearts, enhanced jumps, character scaling), and full game state management (restart, respawn, win/lose conditions).