Arun Atchuthananthan

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EDUCATION

University of Waterloo   Waterloo, ON
Bachelor of Computer Science | Artificial Intelligence Specialization   Expected May 2026
- **94.79%** Cumulative GPA - Academic Distinction
- Coursework: Introduction to Artificial Intelligence; Machine Learning in Economics; Data Structures and Algorithms

TECHNICAL SKILLS

Languages: Python, C, C++, Java, Kotlin, Swift, Javascript, Typescript, HTML/CSS, C#, PHP, Scala, Git, Bash, SQL, R

Tools: React, Node, Angular, Flask, PyTorch, REST, MySQL, PostgreSQL, Firebase, Snowflake, Docker, AWS, GPT

WORK EXPERIENCE

Software Engineering Intern, RouteThis   May - August 2024
- Conducted mobile upgrades on the Certifty app for network technician users; Led **Android** user-flow redesign
- Reimplemented framework to **stabilize** wifi measurements and **detect** roaming events with **98%** accuracy
- Initiated network data collection and formatting for **optimized** storage in **AWS DynamoDB** and **S3** databases
- Created **Kotlin path tracing prototype** using **sensor fusion** to alleviate reliance on erratic sensor accuracies
- Validated **iOS** and **Android** releases; Monitored user adoption in gradual rollouts using **PostHog** feature flags

Android Developer, Innovapost   September - December 2023
- Implemented new QR code and accessibility features for Canada Post Android application with **over 1 million** downloads
- Analyzed and facilitated **Kotlin** code migration to use **KSP** processing tool - reducing development build times by **50%**
- Upgraded mobile layout and navigation flow, noted by improved user **reviews/ratings** on the Google Play Store
- Spearheaded systems in the **Agile** workflow to refine code standards and to reduce excessive, costly resource licenses

Software Developer, Infor   January - April 2023
- Created a new **Kotlin** logging system to monitor and interpret internal service data in the Workforce Management app
- Optimized codebase by refactoring data logging and upgrading **Java** features to **Kotlin**, reducing execution times by **70%**
- Developed **SpringBoot aspect-oriented** blacklist privacy system to filter logged services and exclude sensitive data
- Constructed **JUnit** tests to **validate** proof-of-concept functionality based on data extracted from **PostgreSQL databases**

Software Quality Assurance Engineer, AlertDriving   May - August 2022
- Collaborated with both **Development & QA** teams to enable **TDD** for new **Javascript** features in user-facing web app
- Validated backend **optimizations** to improve processing speeds by **30%** for batch updates of **10000+** concurrent users
- Utilized **SQL** databases and **PHP** to efficiently generate, validate, and deliver over **30000** client reminder emails
- Analyzed **GitFlow** and **Agile** SDLCs in **20 page** report detailing the company's development maintainability and efficacy

PROJECT EXPERIENCE

Rate-It | Sentiment Analysis Interface | *Python, Flask, Javascript, HTML/CSS*   February 2024
- Programmed **Python** and **Flask** backend to categorize text sentiment through a **Javascript** web app hosted on **Streamlit**
- Integrated Python **libraries** to analyze emotions and score further parameters including message **polarity** and **subjectivity**
- Leveraged file text processing to augment **input choices** with **text** and **csv** files; Integrating for social media **links**

Lyrify | Spotify Web App | *Javascript, React, HTML/CSS, Bootstrap*   August 2023
- Developed music lyric generation and search on **Spotify API** playback with **Javascript** and **React** before adopted natively
- Implemented user-friendly **authentication** to connect to existing client social accounts and allow customization of web UI

RAIINet+ | Multiplayer Strategy Game | *C++*   December 2022
- Built and documented **C++** game with visual and text displays for live, interactive **single-screen multiplayer** gameplay
- Implemented **object-oriented** design to facilitate mechanical modifications, player **customization**, and game modes
- Shortened input and **render time** by over **50%** by **decoupling** through **MVC** design and **optimizing** game state updates

BookMark | Socialized Library Website | *Firebase, Javascript, HTML/CSS*   December 2020
- Designed a social website for the school library with over **300** books for **50+** student users to discuss, search for, and rate
- Utilized **Firebase** to **link** user ratings, messages, and preferences with either a **custom login** or their **Google account**
- Restructured backend book entries to enable daily book recommendations, flexible book searches, and personalized filters