GAJAPRIYAN VIGNESWARAN

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Education

Carleton University   **Expected Graduation May 2027**
Honors B.C.S Computer Science - Cybersecurity Stream   *3.90/4.0 GPA (A+)*
Coursework: Object Oriented Programming, Data Structures and Algorithms, Web Applications, Systems Programming, Database Management Systems, Operating Systems, Computer Architecture, Discrete Mathematics, Linear Algebra

Work Experience

Carleton University   **September 2025 – Present**
Database Management Systems Teaching Assistant   *Ottawa, ON*
- Supported instruction in core database theory including **relational schema design**, normalization, relational algebra, **SQL optimization**, and **B+ tree indexing**.
- Mentored **100+ students** on **PostgreSQL-backed application development**, RESTful data access patterns, schema design trade-offs, and debugging database-driven systems.

Royal Bank Of Canada   **May 2025 – August 2025**
Security DevOps Engineer Intern   *Toronto, ON*
- Reduced manual credential tickets by **90%** by automating **Azure Service Principal secret rotation** with **Python-based GitHub Actions** and **HashiCorp Vault**, coordinating **OpenShift rollouts** across 50+ workloads.
- Reduced **false deployment** blocks by **85%** and accelerated SCA scans by **60%** via a daily **Spring Boot batch** that aggregates vulnerability data and auto-generates exemptions for **50+ apps**, leveraging **Redis** for faster lookups.
- Optimized cluster efficiency by **40%** across 15+ Spring Boot apps by tuning **CPU/memory requests** in **OpenShift** and configuring **VPA via Helm**, validated through **Prometheus** metrics.

Royal Bank Of Canada   **May 2024 – Dec 2024**
Backend Engineer Intern   *Toronto, ON*
- Reduced **manual report generation** time by **40%** and enhanced regulatory adherence across RBC Capital Markets by developing scalable **Spring Boot** compliance-reporting APIs with **JPA**-based data aggregation.
- Reduced **pod resource** usage by **50%** across 20 services by integrating **k6** load tests and **Gremlin** chaos workflows into **Jenkins/GitHub Actions** CI, driving performance validation and workload right-sizing.
- Increased **certificate compliance** visibility by **25%** by building a **Spring Boot** certificate directory API enabling secure **retrieval, renewal, and revocation**.

Leadership

CU Blueprint   **Feburary 2024 – September 2025**
Engineering Product Manager
- Led the development and delivery of software solutions for nonprofits, managing a team of **10+** developers and designers
- Collaborated closely with **stakeholders** to understand technical requirements, translating them into **actionable project plans**, clear deliverables, and timelines to ensure successful execution.

Projects

6ixFlow | *Next.js, FastAPI, Mapbox, PostgresSQL, Pandas, Random Forest*
- Developed an AI-driven Traffic Hotspot platform using Toronto open data, scikit-learn, and geospatial visualization; engineered pipelines to aggregate multi-year vehicle, cyclist, and pedestrian counts, trained Random Forest models to forecast congestion by time and location, and built an interactive map UI for real-time urban mobility insights.

CourseCraft | *NextJS, PlanetScale, NextAuth, OpenAPI, TailwindCSS*
- An AI-driven platform that simplifies course creation by ingeniously generating comprehensive educational roadmaps from simple prompts. This innovative tool facilitates the construction of structured learning journeys, complete with video content and knowledge assessment, streamlining the educational process.

SpectraHunter Simulation | *C, Multithreading, Dynamic Memory Allocation*
- A program that emulates a networked communication system for ghost hunts. It dynamically simulates interconnected rooms where four hunters, equipped with devices, collect evidence. Replicating scenarios where encounters with ghosts heighten fear levels.

Technical Skills

Languages: Java, C++, C, C# Python, GO, JavaScript, MySQL, PHP, Ruby, Swift, TypeScript, Scheme, Perl
Technologies/Frameworks: Spring Boot, ReactJS, PostgreSQL, NextJS, Django, NodeJS, GraphQL, MongoDB, .NET
Developer Tools: AWS, Postman, PowerBI, Git, Azure, Docker, Jira, JUnit, Azure, OpenShift, Kubernetes