Kaven Muraleitharan

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EDUCATION

Carleton University **Expected Graduation: April 2027**
Honours Bachelor of Computer Science in A.I Machine Learning (Co-op), **GPA**: *3.6/4.0* *Ottawa, ON*
- **Awards:** Dean's List (2023-2025), CU Academic Scholarship (**$16,000**), CU TSA (**$1,900**), CU Academic Staff (**$1,900**).
- **Relevant Course Work**: Machine Learning, Data Structures & Algorithms, Computer Networks, Systems programming, Database Management Systems, Software Engineering, Web Applications, Robotics, Cryptography & Authentication, Discrete Structures I & II
- **Affiliations:** Carleton Computer Science Society (CCSS), CUHacking, Paul Menton Centre.

EXPERIENCE

Notetaker **Sept. 2024 – Present**
Carleton University | PMC *Ottawa, ON*
- Prioritized, organized, and managed personal workload while meeting 48-hour weekly notetaking deadlines for students with disabilities taking COMP 2401 (Systems Programming) and COMP 3000 (Operating Systems) at Carleton University's Paul Menton Centre as a computer science notetaker.
- Identified and synthesized key learnings from classroom lectures into succinct notes to help improve comprehension of lecture material.
- Demonstrated ability to listen actively during lectures and convey spoken information clearly in written form for an audience with varied abilities and needs.
- Took initiative to commit to and follow-through on a leadership role at Carleton's PMC for a number of months under minimal supervision.
- Maintained confidentiality and professionalism while interacting with professional staff and note-taking recipients.

Technology Representative **Jan. 2023 – Aug. 2023**
Staples *Stouffville, ON*
- Delivered personalized technology solutions to address customers' needs, resulting in an increase in customer satisfaction ratings.
- Drove over **$5,000+** in sales revenue through effective product demonstrations and client consultations of protection plans at Staples, leveraging expertise in the latest tech products.
- Provided exceptional after-sales support, resolving technical issues promptly and maintaining strong client relationships.

PROJECTS

Health and Fitness Club Management System ⧉ | *Java, PostgreSQL* **Nov. 2025 – Dec. 2025**
- Led a 3-person team in designing and developing a database-driven fitness club management system, coordinating task delegation, architecture decisions, and project delivery
- Designed a normalized relational schema (3NF) consisting of 10 entities and 10+ relationships, translating a complete ER model into PostgreSQL with enforced primary/foreign key constraints
- Implemented 12 database-backed operations using Java across 3 user roles (members, trainers, admins), including session scheduling, health metric tracking, room booking, equipment maintenance, and account management/registration.
- Wrote complex SQL queries, views, and triggers to support scheduling conflict detection, time-stamped health metric history, capacity enforcement, and cross-role data access restrictions

Media Network Simulator ⧉ | *C++, Make, Valgrind* **Mar. 2025 – Apr. 2025**
- Developed a C++ media network application using object-oriented principles like **operator overloading**, **templates**, and **virtual inheritance** to model channels, media, and dynamic search functionalities, ensuring scalable and maintainable architecture.
- Designed a runtime-configurable media playback system using the **strategy pattern**, allowing seamless switching between audio-only and video modes with dynamically loaded ASCII art for visual elements.
- Developed a templated Array class for type-safe data storage and integrated rigorous memory management practices, leveraging **Valgrind** to achieve zero-leak reliability and optimal performance.
- Utilized **Makefile** for automated compilation/testing, adhering to modular software engineering best practices.

kavenmuralei.ca ⧉ | *HTML/CSS/JS, Node.js, AWS S3 & Route53* **June 2024 – Sept. 2024**
- Engineered and deployed a modern and interactive portfolio website to present users and employer a visual display of skills and projects.
- Implemented **Node.js** to create an efficient backend, ensuring seamless data processing and server-side operations. Integrated the **Three.js library** with Node **Package Manager** to create a visually stunning 3D background in the website.
- Deployed the website on the AWS cloud infrastructure, utilizing **Amazon S3** for static web hosting and **Amazon Route 53** for domain management, ensuring high availability and reliability.
- Achieved maximum cost efficiency by keeping the website's operational costs **at < $0.8 per month**, excluding annual domain renewal.

CERTIFICATION

AWS Certified Cloud Practitioner | AWS | ⧉ **August 2024**

TECHNICAL SKILLS

Languages: Java, JavaScript, C, C++, Python, HTML/CSS.
Frameworks & Databases: Node.js, PostgreSQL.
Developer Tools: Linux, Valgrind, Git, AWS, OpenStack, Android Studio, Webots.
Libraries: TensorFlow, OpenCV, Pandas, PyTorch, React, Numpy.
Machine Learning: Computer Vision, Sentiment Analysis.