Aarchi Singh

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Education

University of Waterloo — Waterloo, ON
Candidate for Honours Bachelor of Computer Science (Co-op) — *Apr 2029*

Technical Skills

Languages: Python, Java, C/C++, Go, Swift (iOS), JavaScript/TypeScript, SQL (MySQL), HTML/CSS, PowerShell.
Frameworks: React, Node.js, Express, Flask, FastAPI, WordPress.
Cloud Platforms & Infrastructure: Oracle Cloud Infrastructure (OCI), Google Cloud Platform (GCP), Terraform, Docker, Kubernetes.
Developer Tools & Environments: Git, Linux, Jupyter Notebook, VS Code, IntelliJ, Eclipse.

Experience

Software Developer Intern — May 2025 – Aug 2025
Pinkbyte Inc./Mazzzing Inc. — *Vaughan, ON*

- Developed and deployed Terraform scripts to automate the creation and provisioning of cloud servers on Oracle Cloud Infrastructure (OCI), reducing manual setup time by 85%.
- Successfully managed two projects: enhanced the backend of the company's website to support audit document review, and built a hardware-based MagSafe lock system using Raspberry Pi for automated access control.
- Developed Python scripts for MySQL and Microsoft Access, enabling automated data retrieval and updates, reducing data processing time by 60% and eliminating over 10 hours of manual work per week.

Lead Software Developer — Jul 2024 – Apr 2025
University of Waterloo's Engineering Society (EngSoc) — *Waterloo, ON*

- Implemented major website enhancements and plug-ins in WordPress.
- Developed an automation system in JavaScript to streamline repetitive tasks, boosting EngSoc's productivity.
- Developed a website traffic tracker using Google Website Analytics to monitor and analyze user engagement, resulting in better insights for optimizing content.

Projects

Perfume Recommendation Model | *Python, Flask, Scikit-learn, NLP, TF-IDF, Cosine Similarity* **GitHub**

- Developed an AI-powered perfume recommendation system in Python that predicts ideal fragrances based on user-input scent notes, using NLP and similarity scoring.
- Engineered a content-based filtering model that calculates cosine similarity between user preferences and a curated perfume dataset, returning personalized matches with a similarity confidence score.
- Processed and embedded textual fragrance data using techniques like TF-IDF vectorization, enabling real-time prediction of user-aligned perfumes with over 90% match accuracy in top suggestions.

Skincare Label Scanner | *Python, Docker, Streamlit, OCR, NLP, Fuzzy Matching, Image Processing* **GitHub**

- Built a Python-powered Streamlit app using OCR and NLP to extract and parse skincare ingredient lists from label images.
- Implemented a fuzzy matching algorithm (SequenceMatcher) to detect harmful and beneficial ingredients, enabling users to identify safety concerns and benefits in under 10 seconds.
- Engineered text cleaning and parsing pipelines to handle varied label formats and noisy OCR, boosting ingredient extraction accuracy and reliability.

Student Grade Tracker | *React.js, Node.js, Express.js, MongoDB, Render, MongoDB Atlas* **GitHub**

- Developed a full-stack Student Grade Tracker web app using React.js, Node.js/Express, and MongoDB, enabling users to manage courses, track assignments, and view real-time grade calculations.
- Implemented JWT authentication, dynamic weighted average logic, and RESTful API endpoints to ensure secure, scalable, and efficient backend operations.
- Deployed the application on Render with a cloud-hosted MongoDB Atlas database, ensuring reliable performance, persistent data storage, and secure end-to-end functionality.