Christian Florea

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Education

University of Waterloo   Sep 2020 – Apr 2026

Bachelor of Science in Mechatronics Engineering with Software Engineering Option | 3.88/4.00 GPA

Experience

Verkada| Software Engineer Intern   May 2025 – Aug 2025

- Designed a **Kafka**-driven event export pipeline to offload compute-heavy file generation from endpoints, boosting export success by 5.6% and cutting peak DB load by 9.3% via strategic **Kubernetes** deployments.
- Tracked active jobs using **Redis**, limiting concurrency and preventing large orgs from monopolizing the pipeline.
- Offloaded 100% of user read traffic from **Postgres** to **Elasticsearch**, reducing p50 endpoint latency by 46%.

Magi Inc | Software Engineer Intern   Jan 2025 – Apr 2025

- Built a vector-based recommendation engine from scratch to personalize fashion suggestions for users.
- Designed an ingestion queue to process image description, embedding, and vector storage for **900k+ images**.
- Implemented a **RAG**-based **re-ranking algorithm** to improve relevance, increasing outbound clicks by **19%**.

Verkada | Software Engineer Intern   May 2024 – Aug 2024

- Developed a new intercom dashboard page to display and sort more than 100k weekly call and video events.
- Created new **React** components that utilize **Redux** for state management; tested using **RTL** and **Cypress**.
- Created **custom hooks** to localize intercom events with user and call metadata, improving dashboard readability.

Relay Financial | Software Engineer Intern   Sep 2023 – Dec 2023

- Built a receipt manager using **AWS** and **Node** to parse and upload data from **1,000+ daily** emailed receipts.
- Offloaded intensive OCR and data parsing tasks to **Lambda**, and integrated **SES** to notify users of errors.
- Implemented Veryfi's API to improve **OCR**, resulting in receipt to transaction matching accuracy of **98%**.

Projects

OpenCV Ball Balancing Platform | Python, OpenCV, Firmware (C++)   Oct 2024 – Dec 2024

- Used **OpenCV** for **real-time** object tracking, enabling accurate platform control on embedded hardware.
- Optimized **thread synchronization** to avoid race conditions and ensure consistent data flow between processes.

Swim Meet Results Web Scraper | Python, OOP, Web Scraping   Mar 2023

- Created a web scraper to analyze swim meet results (500+ athletes), visualizing the data using **Matplotlib**.
- Implemented a local **caching** system to persist scraped swim data across sessions, cutting runtime by **60%**.

Extracurriculars

Varsity and Club Swimming   2011 – Present

- Qualified for the 2020 Canadian Olympic Trials through commitment, strong work ethic, and training 15+ hr/wk.
- Exhibited leadership skills and ability to work with others as assistant team captain of the varsity team.

Skills

Languages: Python • TypeScript • JavaScript • C++ • C • SQL

Tools: Postgres • AWS • GCP • WebSocket • Docker • React • Redis • Kafka • Kubernetes • OpenCV