# VU KHANH CAO

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## EDUCATION

**Carleton University**, Ottawa, ON — Sept 2023 – Present
Bachelor of Computer Science (Honours) — Artificial Intelligence and Machine Learning
GPA: **3.75 / 4.00**

## SKILLS

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|---|---|
| Programming | C/C++, Python, Java, JavaScript, TypeScript |
| Web & Systems | React, Node.js, Express, Flask, React Native |
| Data & AI | TensorFlow, PyTorch, Keras, OpenCV |
| DevOps & Tools | Linux, Git, Docker, AWS, CI/CD, Agile/Scrum |
| Databases | PostgreSQL, MySQL, MongoDB |

## EXPERIENCE

**Software Developer** — Jun 2025 – Dec 2025
*Ovenns Analytics Inc. — Ottawa, ON*

- Collaborated in an Agile team environment, participating in sprint planning, code reviews, and iterative delivery.
- Built and deployed a full-stack SaaS platform using React, Node.js, Express, and PostgreSQL, supporting real-time data updates and multi-tenant access.
- Implemented secure authentication and authorization mechanisms using JWT and CSRF, strengthening system robustness and preventing unauthorized access.

## PROJECTS

**TRACY — AI-Powered Tennis Performance Analysis System** — Jan 2026

- Designed and built a computer vision system to analyze tennis match footage, tracking player movement and ball trajectories from a single camera angle.
- Produced visual analytics using **matplotlib** and video processing pipelines with **FFmpeg** to generate dynamic visual outputs.
- Integrated AI-generated natural language insights to summarize strengths, weaknesses, and improvement areas for players.

**JARVIS — Data Pipeline for 3D Scene Reconstruction** — Jan 2025

- Designed and implemented a modular data-processing pipeline transforming raw image and video inputs into structured datasets.
- Achieved a 95% cost reduction by applying machine learning techniques and efficient data representations.
- Performed exploratory data analysis and profiling to optimize processing workflows.
- Used Python, Pandas, and Jupyter to experiment, analyze results, and validate improvements.

**Walk in the Park — User Engagement Analysis** — Apr 2024

- Collected and analyzed user interaction data to evaluate engagement with AI-generated content.
- Integrated external APIs and tracked usage metrics to inform feature improvements.
- Built backend services in Python (Flask) to support data collection and reporting.