Marc Crasto

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EDUCATION

Bachelor of Science, *Western University* Anticipated May 2026
- Honours Specialisation in Computer Science
- GPA: 3.5

TECHNICAL EXPERIENCE

Machine Learning Developer, *Western Developers' Society* Sep 2025 – Apr 2026
- Developing a vision–language model (VLM) for NSFW detection in 3D printing workflows
- Researching 10+ state-of-the-art VLM architectures to inform training strategy and multimodal fusion design; presenting the system at CUCAI 2026

Machine Learning Developer, *Western Cyber Society* Sep 2025 – Apr 2026
- Building a full-stack skin cancer detection application
- Preprocessing the Fitzpatrick dataset (7 skin tones, 10,000 images) using insights from 15 academic papers to improve CNN robustness

Machine Learning Developer, *Western Developers' Society* Sep 2024 – Apr 2025
- Worked in a Scrum team of 7 to develop a real-time transit app for London, Ontario
- Evaluated baseline models (linear regression, random forest) before converging on a bidirectional LSTM architecture that reduced mean absolute error by 17% vs Google Maps

Frontend Developer, *Western AI* Sep 2023 – Apr 2024
- Built and live-demoed a financial forecasting web app at CUCAI 2024 attended by 340+ delegates
- Implemented the presentation layer with Flask templates, HTML, and CSS, handling request routing, form submission, and dynamic rendering of forecast outputs for the demo

PROJECTS

TextQuest Sep 2025 – Dec 2025
- Created an AI-driven learning platform that gamifies textbooks by extracting content with PaddleOCR and leveraging the Grok API to generate progression logic and textbook-based assessment questions
- Demonstrated a Subway Surfers–style proof of concept that validates Grok-generated textbook questions through lane-based answer selection

HCI Kanban Redesign Project Jan 2025 – Apr 2025
- Redesigned the traditional Kanban board using core HCI principles, implemented with MongoDB, Express, React, and Node.js
- Ran usability tests where 92% of participants rated the design positively on ease of use and engagement

Predicting Traffic Accident Severity Sep 2024 – Dec 2024
- Led a team of 3 to develop machine learning models predicting traffic accident severity
- Achieved 74% accuracy with a gradient boosting model, a 5% improvement over the research baseline, by applying randomized search cross-validation for hyperparameter tuning

SKILLS & TECHNOLOGIES

- **Programming Languages**: Java, Python
- **Frameworks & Libraries**: React, Node.js, Express, Mongoose, Flask
- **Databases**: MySQL, PostgreSQL, MongoDB
- **Web Development**: HTML, CSS
- **Tools & Platforms**: Git, GitLab, Jira, VS Code, npm