# Xander van Pelt

Waterloo, Ontario, Canada | | linkedin.com/in/xandervanpelt | +1 (519) 933 6337

## EDUCATION

**University of Waterloo | Bachelor of Computer Science, Honours, Co-op | Expected 2031**
Waterloo, Ontario

**Hua Hin International School | International Baccalaureate Diploma | 2022–2026**
Extended Essay in Computer Science | SAT: 1500 (750 Math, 750 EBRW)

## EXPERIENCE

**ClassroomFeed.com | Founder & Lead Developer | 2025–Present**

- Founded and independently engineered a production EdTech platform with TypeScript/React, Node/Express, Python/Flask, FastMCP, MySQL, Stripe, and Google APIs.
- Built a proprietary LLM harness for an “always-on” AI agent that acts as an academic advisor and assistant to students.
- Implemented a variation of Anthropic’s 2024 Contextual Retrieval system to index and vectorize student-uploaded notes, syllabi, and learning resources. Passage-level provenance ties AI-generated claims to source material; deletion and reprocessing revoke outdated evidence.
- Built a controlled runtime for interactive AI lessons, allowing models to inject learning widgets into a live chat stream. Vector search over hundreds of components, reranking, and a fast approval model select widgets in real time.
- Engineered Google Classroom synchronization resilient to revoked credentials, concurrent workers, and late notifications using per-user locking and scheduled fallback synchronization.

**Mekong Memo | Technical Lead | 2023–Present**

- Engineered an automated newsletter pipeline processing 800+ Southeast Asian articles daily for 4,000+ subscribers using a custom web scraper, NLP categorization, and LLM summaries at three lengths.
- Built a Discord bot through which writers scrape and summarize articles, group related coverage across perspectives, and draft newsletters.
- Designed a pipeline from RSS feeds and site URLs through proxied HTTP requests, Playwright and computer-use fallback, HTML cleanup, categorization, story analysis, and newsletter drafting.

**Dusit Thani | Operations Research Intern | Oct–Nov 2025**

- Optimized parking allocation for Dusit Parkside & Residence, a 389-unit condominium, using models of parking-space value and room value.
- Consolidated spreadsheets and PDFs; valued spaces by elevator proximity, level, and width, and rooms by floor area and height.
- Applied global optimization to assign parking spaces; built visualization tools for operations teams and presented methods and results to project managers and the developer.

**HHIS Announcement System | Software Engineer | Oct 2024–Feb 2025**

- Developed and deployed a school-wide announcement and form-time application with OAuth 2.0 authentication, Google Cloud Platform integration, and the OpenAI API.

## SELECTED ENGINEERING & RESEARCH

**Neutron Game Engine | Independent Developer | 2020–Present**

- Built an open-source Java 2D game engine from scratch with a custom rendering pipeline, physics system, entity-component architecture, asset management, and UI framework.

**Optimization Research:** A Comparative Study of Gradient Descent, Genetic Algorithms and Simulated Annealing for Optimizing Jansen’s Linkage Proportions. DOI: 10.5281/zenodo.18118038.

**Applied Mathematics:** Exploratory Principal Component Analysis of Multidimensional Student Depression Indicators. DOI: 10.5281/zenodo.18103117.

**Online Technical Blog:** xvpme.notion.site

## TECHNICAL SKILLS

**Languages:** Python, TypeScript, Java | **Frameworks:** React, Node.js, Express.js, Flask, PyTorch

**Systems & Tools:** Google Cloud Platform, Google APIs, Stripe, Git | **Focus:** AI systems, full-stack development, optimization

**Spoken languages:** English (native), Thai (fluent), French (A2)