Ethan Cratchley

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Education

Simon Fraser University (SFU)   Sep 2022 – Apr 2026
Bachelor of Computer Science and Business Administration (Joint Major) - Concentration in Artificial Intelligence
- **Coursework:** Data Structures & Algorithms, Calculus, Linear Algebra, Discrete Mathematics, Business Computing, Business Statistics, Financial Accounting, Economics, Product Management

National University of Singapore (NUS)   Aug 2025 – Dec 2025
Exchange Program

Experience

Machine Learning Engineer   Dec 2024 – Present
Autonommi   *Hybrid*
- Developed and fine-tuned large language models (LLMs) to optimize natural language understanding and generate high-quality text outputs.
- Implemented Retrieval Augmented Generation (RAG) models, improving model response and robustness.
- Collaborate cross-functionally to design, test, and iterate on AI-driven features, ensuring a high quality user experience.

Project Lead   Oct 2024 – May 2025
SFU OS Development Club   *Vancouver, BC*
- Managed a team, overseeing the hiring and interview process, and coordinating project planning.
- Led the development of FinancialFastFeed.com using Python, JavaScript, MongoDB, Render, and more.
- Directed product development, ensuring timely delivery and maintaining high-quality software standards.

Senior Research Analyst   Sep 2024 – May 2025
SFU Investment Club   *Vancouver, BC*
- Conducted in-depth equity research on diverse financial instruments to inform investment strategies.
- Developed financial models & valuation frameworks, evaluating company fundamentals and risk profiles.
- Collaborated on case studies and investment challenges to enhance portfolio management, presentation, and research skills.

Innovations Intern   Apr 2024 – Aug 2024
Wilson Beck Insurance   *Vancouver, BC*
- Implemented AI-driven automation workflows, improving internal operational efficiency.
- Researched & developed internal company procedures, enhancing process standardization.
- Built projects in Python to improve internal company operations.
- Answered phone calls from clients using Mitel and communicated with them to give them the support needed.

Projects

Custorix | *Python, Flask, Gemma 3n, YOLOv11, Raspberry Pi, Ollama*   June 2025
- Built a private, offline first, multimodal AI security system using Gemma 3n, YOLOv11, and Raspberry Pi to deliver real-time video/audio analysis and natural language alerts without cloud dependencies.
- Developed an AI server with Flask for distributed intelligence and a native iOS app (SwiftUI) + React dashboard.
- Optimized model deployment on resource-constrained Raspberry Pi hardware, enabling 30fps local inference.

Financial Fast Feed | *Python, JavaScript, CSS, MongoDB, Git, React, Render*   Dec 2023 – Mar 2025
- Fetch financial news RSS feeds from 25+ sources with Python and summarize them with Open AI API.
- Store complete data and summarization of RSS feeds to MongoDB at a rate of up to 272 times per day automatically.
- Built full-stack web application using React, Next.js, and Render for seamless deployment.
- Use Crontab to run the program every 3 hours for the most up to date financial news.

Skills, Honors, Certifications, and Organizations

Languages: Python, C, C++, SQL, HTML, JavaScript, CSS, MATLAB, Bash
Frameworks & Libraries: ChromaDB, Pinecone, React, Next, Node, Express, Flask, Scikit-learn, TensorFlow, PyTorch
Tools: Git, AWS, Google Cloud, MongoDB, Docker, Kubernetes, Figma, CI/CD, Tableau, PowerBI, Cohere
Competitions & Honors: Memorial International Study Abroad Award, WinterHacks Best Pitch, CrackedDevs Best Educational Project, BMO Marathon Completion, Gruesome Twosome Half Marathon 7th Place, CFAC Portfolio Management, PicoCTF
Organizations: SFU OS Development Club, SFU Investment Club, Enactus Capilano