# JAIMIN PATEL

jk22pate@uwaterloo.ca    |    github.com/Jaiminp007    |    linkedin.com/in/jaimin-kamal-patel    |    437-365-9167

## Experience

**Software Engineering Intern (Part-time)**                                    **Dec 2025 – Present**
*Vantxlab*                                                                                            *Toronto, ON*

- Developing **TheFamly**, a Duolingo-style family health app with an **AI assistant** and analytics.
- Building health-data tracking features (lab reports, file uploads, and messages) with searchable history and user insights.
- Utilizing production workflows: GitHub issues, branching, PR reviews, and shipping maintainable code with basic testing/logging.

## Projects

**AI Trader Battlefield (AlgoClash)** | *Python, Flask, React, Tailwind CSS, OpenRouter API, Docker*          **Live | GitHub**

- Built a full-stack platform where LLM-generated trading agents compete in simulated market sessions; implemented a Flask REST API to orchestrate runs and scoring.
- Implemented an order book matching engine with **price-time priority** and **partial fills**, tracking ROI/P&L and portfolio value over time.
- Integrated **OpenRouter** for multi-model strategy generation; created a React dashboard with leaderboards and market visualizations.

**High-Performance Limit Order Book & Matching Engine** | *C++17, STL*          **GitHub**

- Built a **C++17** limit order book with **price-time priority**, multi-level matching, and partial fills; supported market/limit orders and cancellations.
- Optimized hot paths using cache-friendly data structures and $O(1)$ order lookup for cancellations via hashing; added automated tests for edge cases.
- Developed an interactive CLI simulator with execution reports to validate matching logic (crossing orders, partial fills, cancels).

**MoodMate - Your Personalized Therapist** | *JavaScript, Python, OpenAI API, face-api.js*          **Live | GitHub**

- Built a full-stack web app for mood tracking and emotional support with a responsive UI, mood history, personalization, and privacy settings.
- Integrated an AI chat powered by the **OpenAI API**, generating supportive responses and personalized insights from user mood patterns.
- Added **voice input/output** using the **Web Speech API** and real-time **emotion detection** via **face-api.js**; deployed on **Render**.

**AutoTube: AI YouTube Video Creation Automation** | *n8n, OpenAI, Google Sheets, Heygen, YouTube API*          **GitHub**

- Automated an end-to-end pipeline: download video → transcription → AI segmentation → image prompting → avatar video generation → YouTube upload.
- Orchestrated multi-service integrations in **n8n** with structured handoff via **Google Sheets** and post-upload confirmation emails.
- Improved reliability with step-level logging, retries, and guardrails for API failures and rate limits.

## Technical Skills

**Languages**: C++ (C++17), C, Rust, Python, TypeScript, JavaScript, SQL, HTML/CSS, Bash

**Frameworks/Tools**: React, React Native, FastAPI, Flask, Node.js, Docker, Git, GitHub Actions, AWS, Linux, PostgreSQL, Firebase, Render, n8n, OpenAI API, YouTube API, Google Sheets API

## Education

**University of Waterloo**                                                        **Sept 2025 – Present**
*Computing and Financial Management (CFM)*                                                        *Waterloo, ON*

**Awards**: 1st Place Overall in CFM 101 Market Meet Competition, President's Scholarship