

# PONITA TY

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## EDUCATION

**University of Michigan - Ann Arbor** *Expected: May 2027*  
*Intended Bachelor of Science in Computer Science, Minor in Electrical Engineering*

**University of Massachusetts at Lowell** *May 2025*  
*Bachelor of Art and Science in Computer Science, Minor in Mathematics* *GPA: 3.7*

Relevant Coursework: Data Structures & Algorithms, Discrete Mathematics, Linear Algebra, Quantum Computing

## SKILLS

**Languages:** C++, C, Python, JavaScript, HTML, CSS

**Frameworks & Tools:** React, React Native, Node.js, FastAPI, PostgreSQL, Docker, Git, REST APIs

**AI/Machine Learning:** LLMs (Gemini, Llama), FAISS, Sentence Transformers, Vector Embeddings, RAG

**Spoken Languages:** English (Fluent), Khmer (Native)

## PROJECTS

**HandyDaddy** | MLH ElevenLabs Winner February 2026  
*Real-time vision-based home repair assistant providing step-by-step guidance through live video analysis.*

- Built three-stage LLM pipeline using Gemini 2.0 Flash for visual analysis, followed by two Llama 3.3 70B models via Groq for structured reasoning and repair plan generation.
- Implemented FAISS vector search with sentence-transformer embeddings over chunked repair docs, maintaining citation tracking to ground instructions in source material.
- Built React/TypeScript frontend with 4-second frame capture and FastAPI backend using Redis session state, SHA256 frame deduplication, and async processing with configurable timeouts.

**Ventura** | MHacks Overdrive Track First Place Winner September 2025  
*AI-powered community Q&A platform that matches queries to existing discussions, preventing duplicates.*

- Built semantic search using FastEmbed, achieving 92%+ similarity accuracy in matching queries to existing discussions.
- Developed full-stack application with React frontend and Gemini API integration, supporting real-time community threads with social media-style interactions.
- Designed PostgreSQL schema with optimized indexing for fast semantic search queries.

**Nutrinav** | Software Developer September 2025 – Present  
*Full-stack nutrition tracking app for University of Michigan dining halls serving 100+ students in real time*

- Automated meal logging with Node.js backend processing 10,000+ data points, achieving 99.7% uptime across academic semester.
- Integrated MDining dataset through custom ETL pipeline, enabling real-time nutrition data updates and search functionality.

## RESEARCH & WORK EXPERIENCES

**Univ. Mass Lowell** **Lowell, MA**

**iPrep** | Co-Founder February 2025 – August 2025  
*AI career coaching platform that analyzes resumes and identifies skill gaps for job seekers*

- Secured \$4,000 in seed funding through university pitch competition by demonstrating product-market fit for AI career development platform.
- Led technical prototyping with LLMs, implementing testing frameworks that improved response accuracy by 40% through iterative evaluation.
- Conducted 30+ user interviews to validate pain points, resulting in pivot from generic career advice to skill gap analysis for specific job targets.

**Calculus Teaching Assistant** September 2024 – May 2025

- Led weekly recitation sessions, adapting teaching methods based on student feedback to improve section pass rates by 12%.
- Graded assignments for 100+ students across multiple sections, maintaining consistent evaluation rubrics.

**Human-Robot Interaction Research** | *Student Researcher* January 2024 – May 2024

- Awarded \$1,500 Toby Hodes Fellowship to research information flow optimization in human-robot teams for underwater exploration with the Office of Naval Research.
- Engineered pre/post-processing data pipeline reducing communication latency by 35% between divers and autonomous underwater vehicles.