Anthony Campos

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Education

Northeastern University, Khoury College of Computer Sciences **Boston, MA**
Candidate for Bachelor of Science Degree in Computer Science and Business Administration **September 2023 - May 2027**
Concentration: **Financial Technologies** **GPA:** 3.71

Technical Knowledge

Languages: Java, HTML/CSS, Python, JavaScript, Typescript, SwiftUI
Technologies/Frameworks/Tools: PyTorch, scikit-learn, AWS, pandas, seaborn, NumPy, React Native, Next.js, React.js, Expo, Firebase, Supabase, Flask, Tailwind CSS, Framer Motion, Anthropic API, OpenAI API, RAG, Hugging Face, ChromaDB, Stripe, shadcn/ui, GroqCloud API, OpenWeather API, Matplotlib, psutil, speedtest-cli, ping3

Experience

Operations Manager & Lead of NLP Research Project **September 2024 - Present**
AI Perception Research Lab **In-Person**

- Managing operations at the AI Research Lab and Leading a research project on uncertainty-aware dialogue systems, focusing on probabilistic reasoning and adaptive conversational AI.
- Developing uncertainty estimation methods and integrating knowledge graphs to enhance contextual understanding.
- Exploring Bayesian Neural Networks, Variational Inference, and adaptive strategies for personalized dialogue responses.

E-Board Member **April 2024 - Present**
Northeastern AI Club **In-Person**

- Developed and executed a comprehensive 4-session AI bootcamp, focusing on foundational mathematics, data preprocessing, machine learning, and neural networks.
- Built movement scripts for Pololu robots in SwarmScape, enabling disease detection with Google Vertex AI.
- Built a Python-based tool with OpenAI API integration, featuring a custom algorithm and responsive frontend, to generate personalized professor rankings; delivered a functional prototype in 48h in Hackathon -- reached final 4 out of 27 teams

Data Analyst Internship **April 2024 - June 2024**
Aspire Institute Remote

- Analyzed key metrics (click rates, open rates, themed content performance) from Aspire Institute's alumni newsletter and weekly digests, providing suggestions to enhance engagement and adapt content flow to help reach their goal of impacting 1,000,000 young leaders annually by 2027.
- Utilized Excel and Tableau to analyze data, creating visualizations, and reports to effectively communicate findings, contributing to Aspire Institute's global impact across 180+ countries and 100K+ young adults' lives impacted.

Projects

Network Performance Analytics System **December 2024**

- Built an AI-powered network monitoring system with PyTorch & LSTM neural networks to detect/predict connectivity issues.
- Motivated by frequent connectivity issues with our wifi in Lewisburg, PA, especially during "very" important moments like watching our football games (Commanders fan), sparking the idea to predict and prevent network disruptions.
- Combined DL with traditional ML models, achieving 95% accuracy in anomaly detection with real-time monitoring.
- Integrated OpenWeather API and system-level metrics to correlate environmental factors with network performance.
- Utilized Python, scikit-learn for ML, psutil for monitoring, and matplotlib/seaborn for data visualization.

Modular Personal AI Memory Bank **December 2024**

- Designed a modular memory bank system enabling text message summarization and NLP-driven search capabilities.
- Implemented a RAG model using HuggingFace's sentence-transformers, ChromaDB, and Claude to provide semantic search, date filtering, and personalized AI responses.

Logistics Optimization with Intelligent Loading Algorithms **September 2024**

- Developed an intelligent loading optimization platform, built with CloudConvert, AWSTextract, Anthropic's API (Claude), experimenting with better greedy algorithms for more efficient loading instructions.
- Deployed at Moran Logistics which has 5 million square feet of warehouse space, located in PA to reach 60% of North America's population within 8h; it was built specifically for their customer who handles Target's supply of cardboard.

Scalable Food Delivery System with Payment Integration **March 2024**

- Built an MVP using Flask, HTML/CSS, and Stripe API to provide affordable food delivery for students.
- Leveraged a subscription-based model to reduce delivery costs by up to 50%.
- Launched with 40+ orders and significant site traffic; now developing full stack iOS app with SwiftUI, Flask, and MySQL.