

Georgi Varbanov

+1-727-458-8935 | gvarbanov@usf.edu | [LinkedIn](#) | [GitHub](#) | Tampa Bay Area, FL

TECHNICAL EXPERIENCE

Machine Learning Engineer Intern

May 2025 – August 2025

TD Synnex

Clearwater, FL

- Architected and developed a multi-agent framework using LangChain and Python to automate complex document analysis, orchestrating parallel tasks between specialized LLM agents (e.g., GPT-4, Llama 3) to improve processing efficiency.
- Designed and implemented a custom conversational memory module with a Redis caching layer, reducing API calls and decreasing system latency by over 30%.
- Engineered an end-to-end Retrieval-Augmented Generation (RAG) pipeline, handling data ingestion, preprocessing, embedding generation with Hugging Face transformers, and vector storage in Pinecone.

EDUCATION

University of South Florida

Tampa, FL

Master of Science in Computer Science

Aug. 2025 – May 2027 (Expected)

University of South Florida

Tampa, FL

Bachelor of Arts in Philosophy

Aug. 2019 – Dec. 2022

TECHNICAL PROJECTS

AI-Powered Critical Reasoning Extension | *Python, Hugging Face, FastAPI, JavaScript, HTML, AWS*

- Engineered a browser extension for real-time critical analysis of text, identifying logical fallacies and potential cognitive biases in any user-selected content on the web.
- Fine-tuned a BERT-based classifier from the Hugging Face ecosystem for fallacy detection and served the model via a containerized FastAPI backend API deployed to the cloud.
- Developed the client-side extension in JavaScript to capture text, manage asynchronous API communication, and dynamically render analysis results for the user.

Job Recommendation System | *Python, AI/ML, SHAP, Docker*

- Designed and developed a machine learning system that analyzes resume and job description content to generate personalized job recommendations.
- Implemented a machine learning pipeline utilizing a BERT model for intelligent content analysis and semantic matching.
- Leveraged SHAP (Shapley Additive exPlanations) to create a model explainability feature, visualizing which specific skills and keywords on a resume contributed most to a job match.

Credit Card Statement Analyzer | *Python, React, PostgreSQL*

- Developed a full-stack application from concept to completion, featuring a Python backend to extract and categorize data from PDF statements.
- Engineered the backend API service using Flask and designed a PostgreSQL database schema optimized for financial transaction querying and analysis.
- Built an interactive and responsive dashboard with React to enable users to visualize spending patterns and historical trends.

OTHER PROFESSIONAL EXPERIENCE

Radiologic Technologist (PRN)

December 2018 – Present

HCA Healthcare, Largo, FL & Orlando Health, St. Petersburg, FL

- Operated digital imaging systems and maintained EHRs for 30+ patients daily across facilities, ensuring data accuracy.
- Applied problem-solving to optimize image quality and troubleshoot tech issues, maintaining safety and quality standards.
- Collaborated with diverse healthcare teams, efficiently processing time-sensitive diagnostic information.

TECHNICAL SKILLS

Languages: Python, Go, SQL, C, JavaScript, C++

Frameworks & Libraries: FastAPI, Flask, React, Langchain, PyTorch, Scikit-learn, Pandas, Numpy, HuggingFace

Databases: PostgreSQL, Pinecone, Redis

Developer Tools & Cloud: Docker, Git, Linux, AWS