Ali Aslanbayli

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Education

New York University **Sept. 2024 – May 2026**
Masters of Science in Computer Engineering *Brooklyn, NY*
GPA: 3.8 / 4.0

University of South Florida **Aug. 2020 – May 2024**
Bachelors of Science in Computer Science *Tampa, FL*
GPA: 3.7 / 4.0, **Judy Genshaft Honors College**

Technical Skills

Programming Languages: Python, C/C++, Go, Javascript, Typescript, PostgreSQL
Libraries/Frameworks: PyTorch, TensorFlow, NumPy, Pandas, OpenCV, FastAPI, React, Langchain, LLamaIndex
Developer Tools: Jira, Postman, Linux, Git, GCP, AWS, Docker, MLFlow, Ray, OpenShift

Experience

GenAI Developer **Dec. 2024 – Present**
NYU Research Technology Services *New York, NY*

- Architected and deployed end-to-end Retrieval-Augmented Generation (RAG) pipelines using OpenWebUI and vector databases, directly improving model accuracy and reducing hallucinations for domain-specific queries.
- Engineered real-time data ingestion modules in Python that integrate Google Search APIs, increasing LLM context coverage by 40% and enabling the system to answer queries on live events.
- Built a user-facing agentic interface that automates complex data analysis, converting natural language directly into Pandas workflows to accelerate research operations.

Full-stack Developer **Jan. 2023 – May. 2023**
Recepta App Inc. *Remote, US*

- Owned the development of core backend microservices in Go and PostgreSQL, designing robust RESTful endpoints for user authentication and data management capable of handling production traffic.
- Shipped critical frontend features in React/TypeScript, including profile management and search, which directly supported the platform's rapid scaling to 10,000+ active users.
- Optimized the CI/CD pipeline using Docker and GitHub Actions, implementing automated testing and caching strategies like React memoization that improved deployment speed and application performance.

Projects

Forensic-Bind (https://github.com/aslanbayli/forensic-bind) **Dec. 2025**

- Developed a deep learning framework for deepfake attribution by engineering a forensic embedding space that disentangles generator-specific artifacts from semantic content using PyTorch and an EfficientNet-b0 backbone.
- Architected a model-agnostic, explainability-first evaluation framework using GradCAM with pattern reshaping, a LIME predictor, and batch analysis to surface failure modes and attribute predictions to specific image regions.

Firewall Configuration Interface (https://github.com/ftaghiyev/firewall-configuration-interface) **Dec. 2025**

- Architected an NLP-driven engine that translates natural language policy intents into Intermediate Representations (IR) and compiled vendor agnostic configurations, leveraging agent-based logic for context-aware object resolution.
- Integrated a robust validation system featuring static analysis, safety gates, and Batfish network simulation to verify logical correctness and syntax integrity, significantly reducing the risk of security policy misconfigurations.

Music Recommendation (https://github.com/aslanbayli/multilingual-music-recommendation-model) **March 2025**

- Fine-tuned a LaBSE (Language-Agnostic BERT) encoder using Contrastive Learning on the Million Playlist Dataset to generate cross-lingual lyric embeddings, utilizing Ray for distributed hyperparameter tuning and MLflow for experiment tracking.
- Orchestrated an end-to-end MLOps pipeline using ArgoCD and Kubernetes for continuous retraining, and deployed the model via Triton Inference Server with FAISS and FP16 quantization to achieve low-latency real-time serving.

Leadership

Society of Competitive Programmers - *Founder/President* **Aug. 2021 – Aug. 2023**

- Hosted numerous competitive coding competitions, and mentored teams to attend the world-famous ICPC contests.

International Collegiate Programming Contest (ICPC) - *Silver Medalist* **March 2022**

- Working in a team of two other students secured a silver medal at ICPC Southeast USA solving 5 out of the 7 problems.