

# Yaman BOSNALI

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## EDUCATION

### TUFTS UNIVERSITY

*B.S. Data Science (BSDS), double minor in Engineering Management and Entrepreneurship*

Medford, MA

May, 2027

- *Cumulative GPA:* 3.96/4.00 (Dean's List)
- *Relevant Coursework:* Machine Learning, Database Systems, Statistical Pattern Recognition, Visual Analytics, Data Structures, Linear Algebra, Discrete Math, Statistics

## PROFESSIONAL EXPERIENCE

### LEVERX

*AI Engineering Intern* | [\[GitHub\]](#)

Online

Summer, 2026

- Engineered an LLM planning agent that decomposes an 11-field intake questionnaire into a four-layer training plan (yearly, monthly, weekly, daily session), exposed via a FastAPI service over PostgreSQL with a browser UI.
- Enforced structured-output validity through 11+ cross-field Pydantic validators mirrored by matching PostgreSQL CHECK constraints and a retry-with-feedback loop; authored 74 offline tests covering all validators, exercise filtering, and generator chaining with no network, database, or API key.

### TREND MICRO

*Cyber Security Intern*

Dubai, UAE

Summer, 2025

- Researched ML approaches for detecting DNS covert-channel communications, a network threat that evades signature-based detection; contributed to a custom VirtualBox lab environment to test detection scenarios.
- Analyzed XDR reports and ran simulated threat scenarios, including credential dumping, on Trend Vision One's AI-driven platform; earned the Certified Vision One XDR Professional credential.

## SKILLS

- **Programming Languages:** Python, SQL, C++, R
- **Frameworks:** PyTorch, Scikit-learn, LightGBM, FastAPI, Streamlit, Pandas, NumPy, SHAP
- **Software & Tools:** Docker, Git, PostgreSQL, HuggingFace, MLflow, AI Prompt Engineering (Claude)
- **Methodologies:** Agile Development, Scrum
- **Languages:** Turkish (*Native*), English (*Fluent*, C2), Spanish (*Intermediate*)

## PROJECTS

### FLIGHT DISRUPTION FORECASTER + LLM EXPLANATION LAYER

*Personal Project* | [\[live demo\]](#) | [\[GitHub\]](#)

- Built a flight disruption prediction system on 10.9M US flights (BTS + weather), improving PR-AUC from 0.32 (climatology baseline) to 0.60 with LightGBM.
- Engineered a leakage-safe aircraft-rotation feature (inbound delay censored at scheduled turnaround slack); ablation attributed 83% of the model's total gain to it.
- Grounded an LLM explanation layer in SHAP attributions, raising faithfulness from 2% to 98% on a 250-case eval scored by an LLM judge validated against blind human labels.
- Deployed with FastAPI, Streamlit, and Docker on Hugging Face Spaces; experiments tracked in MLflow.

### MEDFORD (Metadata Parser for Scientific Research)

*Tufts Computational Biology Research Group* | [\[GitHub\]](#) | *Submitted to VLDB 2026*

- Built a --out command-line feature for a metadata description language used to document scientific datasets, reconstructing parsed files back into text while preserving structure across nested file imports and variable substitutions.
- Diagnosed and fixed a variable-scoping bug and a recursive bug in nested file handling, validated with 10+ automated tests covering ordering and output consistency.
- Designed an EXIF-to-MEDFORD metadata mapping covering 9 image fields, including GPS coordinate and shutter-speed normalization.