Anju Vilashni Nandhakumar

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Professional Summary

Recent MS in Artificial Intelligence graduate from Northeastern University with hands-on experience building production level ML systems with Python-based data processing and SQL workflows that work on real-world data.
Work Authorization: OPT-EAD valid through July 2026 | No sponsorship required

Education

Northeastern University, Boston, MA — Sep 2023 – May 2025
Master of Science in Artificial Intelligence
SRM Institute of Science and Technology, India — Jul 2019 – May 2023
Bachelor of Technology in Computer Science and Engineering

Technical Skills

Languages: Python, SQL, JavaScript
Data & Analytics: Pandas, NumPy, Scikit-learn, Data Cleaning, Feature Engineering, Statistical Analysis, Data Validation
ML Frameworks: PyTorch, TensorFlow, Keras, OpenCV, Hugging Face Transformers
Tools & Platforms: Git, Streamlit, Flask, Jupyter, Linux

Work Experience

Machine Learning Engineer (Volunteer) — Sep 2024 – Present
Community Dreams Foundation — Boston, MA

- Designed Python data pipelines to clean and process donor datasets supporting predictive analytics across three programs.
- Automated manual data processing time by developing a reporting system, improving decision-making efficiency by 30%.
- Worked across three teams to define data requirements and deliver actionable insights from structured and unstructured data.

Machine Learning Intern — Oct 2020 – Feb 2021
Jobdae — Bangalore, India

- Implemented candidate-job matching system in Python using similarity scoring and ranking logic to improve match quality.
- Wrote SQL queries to extract, filter, and analyze candidate and job listing data from platform databases.
- Constructed an NLP text processing pipeline to extract skills and keywords from resumes and job descriptions at scale, reducing manual tagging.
- Ran validation tests and tracked system performance metrics to catch issues early and support model improvements.

Projects

Explainable AI for Tumor Classification *(Python, TensorFlow, Pandas, Streamlit)* — GitHub

- Developed end-to-end data pipeline handling 220,000+ histopathologic images, including preprocessing, validation and quality checks.
- Trained CNN achieving 91% accuracy with SHAP and Grad-CAM explainability; deployed automated diagnostic reporting dashboard on Streamlit.

MoodMelody - Lyrics Emotion Classifier *(Python, Pandas, Scikit-learn, NLP)* — GitHub

- Built scalable Python pipeline to clean, transform, and process 150,000+ text records with SQL-style filtering and aggregation using Pandas.
- Evaluated and compared multiple classification models with documented performance metrics and reproducible workflows.

Real-Time Deepfake Detection *(EfficientNet-B0, PyTorch, Streamlit)* — GitHub

- Processed and validated large image dataset using Python and OpenCV; fine-tuned EfficientNet-B0 achieving 95%+ accuracy.
- Deployed production Streamlit application with real-time inference and Grad-CAM explainability overlays.