# Shah Nekouei

**AI/ML Engineer — NLP Specialist**

Boulder, CO

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## Objective

Motivated and deeply curious AI/ML Engineer with a passion for turning innovative ideas into real-world solutions. With a strong academic foundation and hands-on experience in NLP, deep learning, and intelligent system design, I bring a creative yet strategic mindset to building scalable and ethical AI systems. From emotion-aware music generation to secure SaaS architectures, I'm driven by the belief that thoughtful AI can transform industries and experiences. I am eager to contribute this energy, expertise, and enthusiasm to enterprise-level AI initiatives that value both vision and execution.

## Skills

- **AI/ML:** Regression, Random Forest, Neural Networks, XGBoost, Generative AI, Multimodal Fusion

- **NLP:** TF-IDF, Word2Vec, BERT, Transformers, Sentiment Analysis, Text Classification

- **Deep Learning:** CNNs, LSTMs, model tuning, explainability (SHAP, EBM)

- **Cloud/Architecture:** Azure, AWS, REST APIs, microservices, Git, GitHub Actions

- **Tools:** Python, R, SQL, Scikit-learn, TensorFlow, PyTorch, Hugging Face, Gradio, Docker

- **Workflow:** Agile methodologies, Jira, Trello, CI/CD pipelines

## Technical Experience

**Interview Outcome Prediction (Multimodal ML Architecture)** — *CU Boulder*     Mar–Apr 2025
Designed and deployed a multimodal pipeline combining prosodic and textual features. Trained and evaluated Random Forest and FNN models with SHAP and EBM for interpretability. Led feature correlation analysis and KPI reporting.

**Fake News Detector (NLP + GenAI Deployment)** — *Independent Project*     May 2025–Present
Fine-tuned BERT on the LIAR dataset to detect fake political statements with 76%+ F1. Deployed publicly using Hugging Face and Gradio. Engineered a secure, modular inference API.

**Wolfie: Emotion-Aware Harmony Generator** — *Independent Research*     Mar 2025–Present
Developed a symbolic and LSTM-based system translating emotion input into harmonized chord progressions. Curated expressive MIDI data and built an architecture for future NLP-to-music translation.

**Lantern: AI Accounting Assistant (SaaS)** — *Independent Project* May 2025–Present
Architecting an AI-powered accounting platform integrating QuickBooks. Designed secure token storage, cloud-based architecture, and planned NLP forecasting module for business queries.

**Housing Market Forecasting (AI System Design)** — *CU Boulder* Dec 2024–Present
Forecasted Colorado rent and home prices using SARIMAX and ElasticNet models. Merged economic indicators like CPI and unemployment with housing trends. Designed time-series validation and KPI analysis.

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**Technical Leadership & Architecture**

- Designed and deployed AI pipelines integrating NLP, acoustic, and economic data with explainability modules

- Architected a secure SaaS application (Lantern) with modular QuickBooks integration and scalable cloud design

- Led planning, evaluation, and documentation of multimodal ML pipelines across team-based and solo research

- Applied responsible AI and transparency practices using SHAP, EBM, and ethical deployment frameworks

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**Education**

**University of Colorado Boulder** — M.S. in Data Science *Expected: Fall 2025*
**Metropolitan State University of Denver** — B.S. in Business Marketing *May 2021*