Mobin Shahidi, M.Sc.

Full-stack AI Engineer

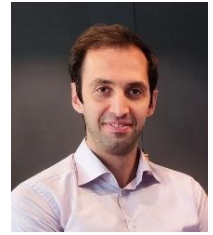Berlin, Germany m.mobinshahidi@gmail.com +4917677234420

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PROFESSIONAL SUMMARY

AI Engineer with **3+ years of experience building ML, NLP, recommender systems,** and **data pipelines.** Brings **4+ years of full-stack** experience and hands-on **product delivery** in a startup. Strong in **Python, FastAPI**, ML modeling, and system design, currently expanding into MLOps, model deployment, and production ML infrastructure.

KEY SKILLS

AI / ML
- ✓ Recommender Systems
- ✓ LLM & NLP
- ✓ Explainable AI
- ✓ TensorFlow, PyTorch, PyTest

Engineering
- ✓ Data Pipeline
- ✓ Fine-tuning / RAG
- ✓ Performance Evaluation
- ✓ System Architecture

Backend / Frontend
- ✓ Python, FastAPI, Next.js
- ✓ JavaScript, TypeScript
- ✓ API Design
- ✓ SQL / Databases

Infrastructure
- ✓ Docker
- ✓ Git / GitHub
- ✓ CI/CD Pipelines
- ✓ AWS

WORK EXPERIENCE

AI Research Engineer, University of Potsdam, Full-time *Feb 2024 – Feb 2026*
Project: Recommender Systems for Quality Political News Source *Potsdam, Germany*

- Built an end-to-end data pipeline in Python (Pandas, NumPy) converting +5M tweets into **41 engineered information-quality signals** for ML modeling and recommendation tasks.
- Implemented reproducible preprocessing and feature extraction workflows with **data validation checks and PyTest-based tests** to ensure dataset consistency and experiment repeatability.
- Trained supervised ML models using Scikit-learn for news source quality prediction using structured training pipelines, cross-validation, and hyperparameter tuning, achieving **0.58 correlation** against NewsGuard benchmark ratings.
- Applied **model versioning and experiment tracking** practices to compare runs and maintain reproducible ML experiments.
- Dockerized ML and recommendation models and deployed them on AWS, implementing performance logging and basic observability to monitor model behavior and pipeline execution.
- Designed a **quality-aware recommender system** that increased the average quality score of recommended news sources by **+3 points** across users while keeping precision unchanged versus baseline.
- Collaborated in a **cross-functional team** and presented experiment results and model performance insights to stakeholders.

Research Assistant, Bu-Ali Sina University, Full-time *Mar 2023 – Sep 2023*
Project: Explainable Recommendation System *Hamedan, Iran*

- Designed a large-scale **NLP + recommendation framework** over **151K reviews/ratings (14K users, 8.7K items)** using multi-task learning to jointly model user preferences and generate explainable recommendations.
- Built **text generation and processing pipelines** that produce personalized explanations by combining neural generation models with summarization, sentiment filtering, user-similarity selection, and style-conditioned rewriting.
- Implemented and evaluated neural text generation and personalization models in Python/TensorFlow, achieving **~0.97 semantic similarity** in generated explanations while improving recommendation prediction performance (**MSE 0.992**).

Full-stack Web Developer, Computer Afzar Hamedan (CAH), Co-founder *Feb 2017 - Jul 2021*
Start-up Project: Cross-Platform Image Management and Privacy Solution (PhotoCans) *Hamedan, Iran*

- Delivered the full-stack web platform for the commercial launch of a cross-platform image management product serving **100+ users**, using ASP.NET Core, C#, JavaScript, CSS, and relational databases across product, customer, and sales modules.
- Implemented **33 REST API endpoints** and backend services for product operations, licensing, and system integration, improving responsiveness and throughput through asynchronous and non-blocking request handling.
- Designed modular system architecture and database schemas and implemented **12+ business workflows**, adding testing practices that improved application robustness and maintainability.
- Deployed and maintained the production system on IIS infrastructure across multiple releases, resolving operational issues through logging, diagnostics, and structured troubleshooting.

EDUCATION

Master	**Artificial Intelligence and Robotics,** Bu-Ali Sina University	*Jan 2020 - Jan 2023*
Bachelor	**Software Engineering,** Bu-Ali Sina University	*Sep 2014 - Jul 2019*

LANGUAGES

Persian: Native   **English**: Advanced (C1)   **German**: Conversational (B1)

SIDE PROJECTS

News Source Quality Platform (meydanews**)**   *Jan 2026 – Present*
- Designed and trained a regression-based **ML model to predict news source quality** using engineered network, structural, and diversity features, driven from X data.
- Deployed the model to **AWS SageMaker** as a scalable real-time endpoint with custom **Python inference** logic.
- Built and containerized a **FastAPI** backend using Docker, deployed on AWS ECS/Fargate behind a load balancer for secure API access.
- Developed a **Next.js (TypeScript)** frontend and deployed it on **Vercel** with custom domain configuration and environment-based API integration.
- Integrated **S3-based** dynamic feature data retrieval to support frequent updates without service redeployment.
- Implemented structured logging and monitoring with **AWS CloudWatch** to track inference latency, errors, and endpoint health.

Workflow-Aware AI Assistant for Applications   *Nov 2025 – Jan 2026*
- Built a workflow-aware AI assistant integrated into a **Next.js** application, responding based on application state and user action order.
- Implemented backend orchestration, integrating both **OpenAI APIs** and **local LLMs (Mistral)** for controlled and flexible inference, using **LangChain**.

Automated Reddit Scraper for Political Discourse   *Jan 2024 - Mar 2024*
- Built an automated **data collection pipeline** to extract subreddit threads, comments, and user interaction data.
- Developed R-based scraping and API workflows to generate large-scale structured datasets from Reddit.
- Implemented **data cleaning and validation checks** to ensure consistency and reliability of text and metadata for downstream analysis.

Deep Learning NLP Recommender System with Reinforcement Learning (Masters' Thesis)   *Oct 2021 - Jan 2023*
- Built a deep learning explainable recommender system in **Python (TensorFlow, PyTorch)** trained on 151K reviews/ratings, combining NLP and multi-task learning for personalized recommendations and explanations.
- Implemented neural text modeling pipelines using **RNN, CNN, and transformer-based encoders** for review understanding and explanation generation.
- Applied **reinforcement-learning**–inspired and neural text generation methods to optimize explanation selection and reconstruction, achieving MSE 0.992 in rating prediction.
- Optimized end-to-end training and inference pipelines and executed large-scale model training on **GPUs,** significantly reducing training time and improving experimentation throughput.

PUBLICATIONS

- *Exogenous Cues to Information Quality*
- *Improving News Reliability in Algorithmic Newsfeeds*
- *A Framework for Accurate Recommendations and Explanation Generation Using Multi-Task Learning*

21 Feb 2026, Mobin Shahidi