Ali Reza Torabi

AI Researcher , Data Scientist

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TECHNICAL SKILLS

- **Programming & Data Handling:** Python, SQL, Pandas, NumPy ,selenium , beautifulsoup , PowerBI
- **Machine Learning & AI Frameworks**: TensorFlow, PyTorch , Keras , Scikit-Learn , opencv
- **Generative AI & NLP:** Large Language Models (LLMs), Hugging Face
- **Deployment and Optimization :**Django, basic Docker usage, deploying machine learning models with REST APIs, and model optimization techniques .
- **Competitions & Projects:** Experience in machine learning and computer vision competitions like tech Olympic competition and other AI hackathons.

EXPIERENCE

AI Researcher ,farzan institute , Full-Time-Employment: May 2025 – Current

- Read recent papers, wrote clear summaries, and explored different areas in healthcare to spot research gaps and real-world problems worth solving.
- Built end-to-end **data pipelines** for **preprocessing**, cleaning, and structuring **real-world patient** datasets in infertility ,breast cancer, and gastric cancer; conducted extensive experiments using a wide range of machine learning and deep learning algorithms to analyze patterns and predict clinical outcomes.

Software Developer ,mizgerd agency , Part-Time-Employment(almost fulltime): March 2025 – Current

- Familiar with data preprocessing and **visualization** libraries (e.g., D3.js, Chart.js), supporting early-stage data exploration and model feature analysis.
- Applied Agile methodologies using **Jira** and **ClickUp** to manage sprints, prioritize tasks, and track progress in cross-functional teams.
- Leveraged **CI/CD pipelines** (GitHub Actions, GitLab CI) and **Git version control** to automate testing, linting, and deployment processes.
- Engineered and deployed **web applications** using **React**, **Next.js**, and **TypeScript**, integrating with backend services, real-time APIs, and **WebSocket** protocols for live data handling.

Machine Learning Course Teaching Assistant, University: October 2024 –November 2025

- **Python Basics**: Taught loops, functions, and debugging for AI-ready coding.
- **Machine Learning Core**: Explained regression, classification, and evaluation using scikit-learn.
- **Hands-On Projects**: Guided students with NumPy, pandas, TensorFlow, and matplotlib for practical ML.

Web Developer, Lidoma Agency, Karaj: December 2023 –March 2024

- **Proficient in Next.js and React**: Skilled in building dynamic, SEO-friendly web applications with server-side rendering and client-side routing.
- **API Optimization and Database Management**: Skilled in designing and consuming REST APIs, optimizing API call

COURSES AND CERTIFICATES

- **DEEP LEARNING COURSE - QUERA**
- **SHARIF MACHINE LEARNING COURSE**
- **Tech Olympic: Image Processing**
- **Fito AI Hackathon**
- **Andrew Ng Machine Learning Specialization**
- **New York University deep learning Course (Computer Vision Part)**

EDUCATION

Bachelor Computer Science, KIAU

Diploma Mathematics-Physics ,Sampad Soltani 3

PROJECTS

SEO Analyser – Audit & Reporting Tool (https://seoanalyser.com.au):

- Developed the frontend with Next.js and crafted a clean, responsive UI/UX using animated transitions for an engaging user experience.
- Integrated ApexCharts to visualize SEO metrics such as keyword rankings, crawl errors, and page performance in interactive dashboards.
- Implemented a lightweight, fast login system with smooth user flow, focusing on performance and accessibility.

Business Insight (https://businessinsight.ai):

- Developed the frontend in Next.js with WebSocket integration for real-time updates (e.g. live inbox, notifications) and smooth UI transitions using Framer Motion.
- Built interactive analytics dashboards with charts and graphs to visualize follower trends, engagement rates, and content performance.
- Designed a scalable, responsive UI with optimized rendering for SEO and performance, leveraging dynamic routing and incremental static regeneration (ISR).

SEO Analysis with Machine Learning:

- Developed a machine learning model to **predict SEO score**s for websites using **Lighthouse metrics** (e.g., performance, accessibility, SEO) and **additional features like keyword density and backlink quality**, achieving a prediction R^2 score of 0.82.
- Dataset: Collected data from Lighthouse reports and web-crawled metadata across diverse websites, processed using Pandas and Scikit-learn.
- Technical Workflow: Trained a **gradient boosting model (XGBoost)** to predict SEO scores, incorporating **feature engineering** for metrics like page load time, mobile-friendliness, and content relevance.

Face Age/Gender Detection:

- Developed a deep learning model to predict age and gender from facial images using a CNN-based architecture, achieving over 88% accuracy for gender classification and a mean absolute error (MAE) of less than 5 years for age prediction on unseen data.
- Dataset: Trained on the UTKFace dataset, containing diverse facial images with age and gender annotations, using TensorFlow for implementation.

- Technical Workflow: Designed a multi-task learning model with shared convolutional layers and separate dense layers for age regression and gender classification, optimized with Adam and combined loss functions.

Implementing the Famous Paper: Attention is All You Need:

- Implemented the Transformer model from the 2017 paper "Attention is All You Need" for machine translation, achieving a BLEU score of 28.5 on the WMT 2014 English-German test set.
- Dataset: Trained on the WMT 2014 English-German dataset, leveraging PyTorch for model development and tokenization with the Hugging Face Transformers library.
- Technical Workflow: Built a Transformer model with multi-head self-attention, feed-forward networks, and positional encodings, optimized with Adam and a learning rate scheduler, demonstrating scalable performance for sequence-to-sequence tasks.

Product Title Categorization:

- **Developed** a product categorization system using a **CNN-based architecture** for classifying product titles(1D CNN) the model accuracy was higher than **87%** on unseen data.
- **Trained** the model on the **Torob.com products dataset**, leveraging PyTorch for implementation with small network achieving best results without long training time.
- **Designed** a multi-layer model with embedding, convolutional, pooling, and dense layers for robust text classification.

Categorization Based on Product Image:

- **Objective**: Build a Product Image Classification Model to categorize diverse product images, leveraging a **CNN** with a ResNet50 architecture the model accuracy was higher than 90% on unseen data.
- **Dataset**: Utilized the **Torob dataset**, featuring a wide variety of fashion and product images for training and evaluation.
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Facial Sentiment Analysis:

- Dataset: Trained on the FER-2013 dataset, containing labeled facial images for various emotions, processed using OpenCV for face detection and PyTorch for model training.
- Technical Workflow: Fine-tuned a CNN model (based on VGG16) pretrained on ImageNet, with data augmentation and softmax output for multi-class classification of emotional states.

Software/Website Development Projects (Remote)

I also build websites for clients as a full-stack developer using Next.js and Django. Here are some of my projects:

- https://fittpipe.com
- Tamizchi (under deployment)
- Old Portfolio Website
- Bandil (a platform like **Divar** for selling enterprise ironware)
- https://shopigi.vercel.app
- and some other projects I can not talk about :)

LANGUAGES

Persian(native) English(fluent) Chinese(beginner)