Ali Reza Torabi

Data Scientist

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Portfolio Website : alirezatorabidev.ir

Technical Skills

- **Programming & Data Handling**: Python, SQL, Pandas, NumPy ,selenium , beautifulsoup , scrapy , 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 such as quantization, pruning, reducing model size, improving inference speed, and hyperparameter tuning (Grid Search, Random Search).
- **Competitions & Projects:** Experience in machine learning and computer vision competitions like tech Olympic competition and other AI hackathons.

Experience

Intern Data Scientist ,eliteswaystars, remote, Project-based-Employment: December 2025 – February 2025
- **Explored ML/AI solutions in Real Estate** by leveraging XGBoost,CatBoost, Random Forest, and Logistic Regression models to identify high-potential prospects, boosting conversion rates.
- Developed and implemented **recommender systems** using collaborative filtering and matrix factorization techniques to personalize property recommendations, enhancing user engagement.
- **Utilized data visualization** tools (e.g., matplotlib , Power BI) to create interactive dashboards and reports, enabling team members to monitor data effectively.

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 calls.

Courses And Certifications

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

Projects

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.

Facial Sentiment Analysis:
- Built a deep learning model to classify facial expressions as happy, sad, neutral, or angry, achieving over 82% accuracy on multi-class emotion prediction using facial image data.
- 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.

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.

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.

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.
- **Technical Workflow**: Fine-tuned a ResNet50 model pretrained on ImageNet, trained with Categorical Cross-Entropy Loss and the Adam optimizer, achieving high accuracy for multi-class classification.

Education

Bachelor Computer Science, KIAU	OCTOBER 2023-PRESENT
Diploma Mathematics-Physics ,Sampad Soltani 3	SEPTEMBER 2020-2023

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)