SHAYAN KEBRITI

shayan-kebriti i4mShayan shayankebriti@gmail.com +98 921 617 9089 +98 993 454 2321
Tehran, Iran

EXPERIENCE

Python Developer & Medical Image Computing Specialist

NIAG – Tehran University of Medical Sciences

Nov 2024 – Present Tehran, Iran

- **Skills:** Python, Image Processing, Research
- Developed medical imaging software for perfusion and structural MRI analysis.
- **Improved a 3D segmentation algorithm** that outperformed the widely used FSL-BET tool.
- **Enhanced the quality** of qMRI 3D images while preserving diagnostic accuracy.

Data Scientist

Roshan AI

Aug 2024 – Nov 2024 Tehran, Iran

- **Skills:** Statistics, Time Series Analysis, Clustering, LLMs, Web Scraping, Research
- Identified critical moments in time-series trade data using statistical and clustering techniques.
- Mapped financial news to critical events; extracted sentiment features using LLMs (e.g., prompt engineering and BERT encodings).
- Built interactive dashboards with Plotly for news filtering on candlestick charts and visual parameter tuning.
- Researched state-of-the-art methods for using news-based features in trade forecasting.
- Investigated optimal news sources and web scraping strategies for future real-time integration.

ML Engineer Intern

Roshan AI

Jul 2024 – Jul 2024 Tehran, Iran

- **Skills:** Deep Learning, Computer Vision, Sequence Models
- **Ranked 1st among 60+ participants** in the internship program.
- Developed two high-performing models: Fashion Product Multilabel Classification and Fashion Product Name Generation , both outperforming other participants' models.

AI Research Intern

Institute for Research in Fundamental Sciences (IPM)

Sep 2022 – Dec 2023 Tehran, Iran

- **Skills:** Deep Learning, Computer Vision, Research
- Gained foundational experience in research methodology and best practices.
- Worked on **deep perspective transformation** for self-driving cars.

ABOUT

8th semester B.S. student with a strong interest in data science and AI. Continuously learning and trying to stay updated with the latest methods and technologies. Seeking new opportunities.

EDUCATION

B.S. in Computer Engineering

Shahid Behehsti University - 18.03/20

Sep 2021 – Present

Machine Learning	20
Data Mining	20
Computer Vision	20
Algorithm Design	20
Linear Algebra	20
Probability and Statistics	18.5
Databases	19
Data Structures	19
Advanced Programming	20
Deep RL (Graduate Course)	Ongoing

SKILLS

- **Languages:** Python, R, C/C++, Java, HTML & CSS, Bash/Shell Script, Dart
- **DL Methods:** CNNs, RNNs, Transformers, GANs, VAEs, Diffusion Models, GNNs, Deep RL
- **Frameworks:** TensorFlow, PyTorch, PyTorch Geometric, Keras, Scikit-learn, OpenCV, FastAPI, Hugging Face, Pandas, Numpy, Plotly, Matplotlib
- **Tools:** Git, MySQL, ElasticSearch, Kibana, Linux, Jira

COURSES

- **Machine Learning with Graphs** (Stanford CS224W)
- **How Diffusion Models Work** (DeepLearning.AI)
- **A/B Testing** (365 DataScience)
- **Deep Learning Specialization** (Coursera)
- **Machine Learning Specialization** (Coursera)
- **Time Series** (Kaggle)
- **Pandas** (Kaggle)
- **Computer Vision** (Kaggle)
- **Python for Data Science, AI & Development** (Coursera)
- **Scrum Foundations Workshop** (Scrum Alliance)

LANGUAGES

Persian
English

Software Developer

Collegiality

Sep 2022 – Dec 2023 Hannover, Germany (Remote)

- **Skills:** Fronted Development, Scrum, Marketing
- Worked in an international team handling diverse responsibilities ranging from software development to team management and marketing.

PUBLICATIONS

- **FractMorph: A Multi-way Transformer for Deformable Image Registration using Fractional Fourier Transform**: Proposed a novel transformer for 3D datasets registration, outperforming state-of-the-art models.

PROJECTS

HIV Inhibitor Detection

Graph Neural Networks

- Designed GCN, GAT, GIN, and TransformerConv-based models to classify molecular graphs.
- Used RDKit to extract node and edge features from molecules.

Conditional Diffusion Models

Generative Models

- Built a conditional diffusion framework for CIFAR-10 image generation.
- Demonstrated improved convergence and image quality using attention-based UNet.

Siamese Face Recognition

Face Verification, Web Deployment

- Trained a Siamese network with triplet loss on face datasets.
- Deployed as a web application.

Rock–Paper–Scissors Game Automation

YOLOv11, Real-Time Applications

- Developed a real-time hand gesture detection system using YOLOv11.
- Achieved 98.2% mAP@0.5 and integrated facial tracking with overlays.

Scholarly Papers Clustering [Canva Slides]

NLP, Data Mining, Clustering, Web Scrapping

- Scraped apsy.sbu.ac.ir to collect scholarly papers from the journal.
- Extracted features using Hazm and FaBERT; applied clustering algorithms such as K-means and hierarchical methods, and analyzed the results.

Persian Name Gender Prediction

NLP, LLM

- Predicted gender from Persian names using various machine learning and deep learning models, and compared their performance.

USA 2024 Election Reddit Analysis [Report Paper]

NLP, Statistics, Time Series Analysis, Data Collection

- Collected comment data from popular political subreddits.
- Proposed a novel approach for comment sentiment classification, outperforming existing open-source methods.
- Applied statistical and time-series analysis to identify critical moments during the election period.

BTC-TMN/USDT-TMN Cryptocurrency Analysis

Statistics, Time Series

- Statistical analysis of BTC-TMN and USDT-TMN pairs was performed using data from Binance, Nobitex, Tabdeal, and Wallex.
- Applied cointegration and error correction models (ECMs) to evaluate price relationships on international and local exchanges.

Connect-4 AI Agent

AI, RL

- Developed Mini-Max and Q-Learning agents for the Connect-4 game.

Tehran Real Estate Data Analysis

Web Crawling, Elasticsearch, Kibana

- Built an Elasticsearch pipeline and API-based crawler to extract and index 2,700+ Tehran listings from Delta.ir.
- Designed a Kibana dashboard to visualize pricing trends, property features, and regional stats.
- Analyzed metrics such as price per square meter, building age, and amenities across districts.