SHERVIN NASERI

BASIC INFORMATION

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WORK EXPERIENCE

Senior ML Engineer / Data Scientist June 2020 - Sep 2021
Pardazesh Etelaat Kian (IraPardaz)

- Designed and deployed machine learning pipelines for vehicle plate recognition using Connectionist Temporal Classification (CTC), achieving near state-of-the-art results at the time.
- Developed a Farsi OCR system for scanned documents, incorporating paragraph and footer detection, and handling poem indentation styles.
- Built an image retrieval system leveraging perceptual similarity for large-scale datasets for a house rental marketplace.
- Engineered car detection and multi-object tracking algorithms for traffic camera surveillance and for counting traffic in each lane.
- Implemented a perspective-robust YOLOv4-based vehicle plate detection with custom regression.
- Developed a self-improving iterative watershed process for document de-warping.
- Led hiring processes and mentored junior data scientists.

Senior Backend Engineer / Data Scientist Dec 2016 - April 2020
Nikaat Corp

- Contributed to the design, development, deployment and technical decision-making in a fast-paced startup environment.
- Developed web services and APIs for applications such as Skenas, Atron, Mint, and Phosphor, primarily using the MEAN stack.
- Developed domain-specific deep learning models for time-series forecasting, including a GRU encoder-decoder for menstrual cycle prediction from sparse, multi-modal data, and a Bi-LSTM Seq2Seq model for currency exchange forecasting.
- Managed DevOps workflows and ensured scalable system deployments.

Python developer March 2016 - Dec 2016
Vestaak

- Developed a personalized content recommendation engine using Python and Scikit-learn, leveraging data crawled from the Telegram Messenger API. Implemented collaborative filtering and content-based filtering algorithms.
- Assisted in the design and development of RESTful APIs using Python and Flask for efficient data ingestion and retrieval.

EDUCATION

MSc. Computer Science Sep 2021 - March 2025
University of Ottawa

- GPA: 8.5/10
- Accepted *paper* at **EMSE2024**: Mohammad Hossein Amini, Shervin Naseri, Shiva Nejati: Evaluating the impact of flaky simulators on testing autonomous driving systems.

MSc. Software Engineering
Sharif University of Technology (SUT)

- GPA: 16.37/20
- *Thesis:* Estimating Protein-Protein Interaction Network similarity through sampling
- *Project:* StackOverflow response time prediction using BERT (Dr. Abbas Heydarnoori)

BSc. Computer Science
Amirkabir University of Technology (AUT)

- GPA: 16.11/20 (3.41/4.0)
- *Project:* Information Retrieval using deep-vector embeddings obtained from Word2Vec and Sent2Vec models (Dr. Saeedeh Momtazi).
- Accepted *paper* at **ICCG2019**: Zahed Rahmati, Sina Farahzad and Shervin Naseri, Counting Closed Billiard Paths.

QUALIFICATIONS

- **Programming Languages:** *Python* (Scikit-Learn, TensorFlow, PyTorch, OpenCV, SpaCy, NLTK, Pandas, PySpark), *JavaScript* (Node.js, Angular, jQuery), *C++* (Working Proficiency)
- **Databases:** MySQL, MongoDB (and similar SQL and NoSQL DBs), Redis, ElasticSearch
- **DevOps:** Nginx, Docker, Docker Swarm, Spark, AWS (EC2, S3, Lambda), Ansible

PROJECTS

Some current passion projects:

- **Real-time Voice Agent:** Featuring a full pipeline from recognition to enhanced RAG-augmented generation and speech.
- **Model Training Research:** Investigated methods to enhance model training convergence through custom layer design and dynamic loss weighting.
- **Video Compression:** Techniques focusing on efficiency through temporal redundancy and bit-packing.

INTERESTS

Software Engineering, Algorithms, Machine Learning, Computer Graphics, Problem-Solving, ... & Video Games