Salar Shakibhamedan

Senior Data Scientist. Production ML, wearables and LLMs.

CONTACT

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PROFILE

Senior Data Scientist who builds and runs production ML for wearables and digital health. At Thalos I took an AI-coaching engine from design to nightly production, with about 20 of its decisions now driven by validated models. PhD researcher at TU Wien in efficient deep learning, with 6+ years of ML experience across industry and research.

EXPERIENCE

Senior Data Scientist, Thalos

Jun 2026 – Present

Wearable sports-tech start-up, Vienna. Owner of all data-science and ML systems.

- **AI-coaching engine:** built and took to production the nightly system that turns athletes' wearable, training, nutrition and sleep data into targets, ranked recommendations and 30-day plans.
- **Validated ML:** moved about 20 of 37 recommendation types from fixed rules to trained models, each tested against the rule it replaces before going live.
- **Leadership and delivery:** set the data-science direction with the CEO and CTO; wrote the specifications and data contracts the backend, iOS and DevOps teams build on; delivered at start-up pace with Claude Code and multi-agent workflows.
- **Reliable releases:** made the nightly run about 50× faster (81 min to 97 s), with reproducible runs, automatic release checks and safety rules.
- **Wearable deep learning:** built a heart-rate fusion model that improved accuracy for every athlete and condition; raised sleep-stage accuracy (Cohen's κ) from 0.24 to 0.45.
- **Illness and injury detection:** an early-warning signal from heart rate and HRV catches 57% more illness than athletes' notes; an LLM-trained notes classifier caught 14 of 16 injuries the old rules missed.
- **Data platform and quality:** moved production to an AWS data lake after reconciling 102M sensor readings; found and fixed silent data loss across 5.9B timestamps.
- **Analytics and LLMs:** traced a doubling of wearable sync outages to one iOS release; fine-tuned LLMs with QLoRA and ran a 753B-parameter model on one GPU.

PhD Researcher, TU Wien

Jul 2021 – Present

- Efficient, scalable optimisation of deep-learning models in an EU-funded project: approximate multipliers for energy-efficient CNNs and accuracy–efficiency trade-offs on edge devices.
- Published in IEEE TCAS-I and at an ICML 2024 workshop.

Visiting Research Fellow, UC Irvine

Jan 2025 – Jul 2025

- End-to-end LLM and RAG pipelines and agentic systems for fair synthetic healthcare data (co-first author of FairTabGen).

EXPERIENCE

Machine Learning Engineer – Data Scientist, PART AI, Tehran May 2020 – Apr 2021

- Developed and deployed ML/DL models for computer vision, speech recognition and recommendation, including one of the first Persian speech-recognition (ASR) models and a Persian OCR system.
- Built and maintained production Python ML systems for commercial applications, from data preparation and feature engineering to deployment.

Teaching & Research Assistant, K. N. Toosi University Feb 2016 – Jan 2019

Signal-processing and ML research; assisted DSP and image-processing courses.

Front Office Engineer / Data Analyst, MTN, Tehran Jun 2016 – Apr 2017

Root-cause analysis of network issues; AI-based issue analysis and reporting.

EDUCATION

PhD, TU Wien 2021 – Present (thesis stage)

Efficient and Scalable Optimization of Deep Learning Models (EU-funded project)

MSc, K. N. Toosi University of Technology, Tehran 2015 – 2018

Multimodal Blind Source Separation

BSc, K. N. Toosi University of Technology, Tehran 2010 – 2015

First Persian Musical Instrument Recognition Model

SKILLS

Machine learning: PyTorch, scikit-learn, TensorFlow; gradient boosting, Bayesian (PyMC) and mixed-effects models; CNNs, transformers, LSTMs; recommender systems, NLP

Statistics and causality: grouped and temporal cross-validation, bootstrap CIs, conformal prediction, difference-in-differences, ODE models, time series

LLMs and AI tools: OpenAI API, RAG, vector DBs, LangChain, LangGraph, QLoRA, llama.cpp, vLLM, Hugging Face; Claude Code and multi-agent workflows

Data and MLOps: SQL, pandas, NumPy; ETL and data pipelines; AWS (S3 Tables, Iceberg, Athena), Google Cloud; FastAPI, Docker, Linux, Git; CUDA

Programming: Python, Bash, C/C++, MATLAB, Java, R; working knowledge of Go, Swift

Health data: wearables, PPG and HRV signal processing, sleep science, exercise physiology, sports nutrition

Languages: English (fluent, C1), German (elementary, A2), Persian (native)

PROJECTS

Vienna U-Bahn Live Map github.com/salarshk/vienna-ubahn-live-map

Live U-Bahn and S-Bahn map that estimates train positions from Wiener Linien departure data, plus an experimental delay-prediction model (React, MapLibre, PWA).

AWARDS

2024 **Marshall Plan Scholarship** (10% acceptance)

2024 **KUWI Research Grant**, TU Wien

2023 **DAC Young Fellowship**, San Francisco