Alireza Nameni

MACHINE LEARNING AND AI ENGINEER

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PROFESSIONAL SUMMARY

Machine Learning & AI Researcher with 6+ years of experience building data-driven models and high-performance software. Expertise in bridging academic research with production-grade engineering. Strong programming background with proven track record in deploying deep learning models that significantly improve prediction accuracy in complex datasets, agentic workflows (e.g. Letta and LangChain), and architecting reproducible pipelines.

SKILLS

Generative AI and Agentic Systems

Large Language Models (LLMs) · Agentic workflows (Letta, LangChain) · Workflow Automation (n8n) · Agent memory systems · RAG · NLP

AI and Machine Learning

Deep Learning · Neural Networks · Transformers · CNN · RNN/LSTM · Model training & evaluation · Hyperparameter optimisation · Computer Vision · Image denoising · PyTorch · TensorFlow · OpenCV

Software & Data Engineering

Python · Rust · Git/GitHub · Docker · CI/CD · Microsoft Azure · Nextflow (Reproducible pipelines) · Large-scale data processing · Data curation · Linux/Unix · C# (Unity) · C++ · Java · Proteomics · LC-MS/MS · Bioinformatics · SDLC · Agile & Waterfall

PROFESSIONAL EXPERIENCE

PhD Researcher — VIB-UGent (Belgium) Jul 2021 – Present

- Architected and developed iDeepLC, achieving a significant reduction in Relative MAE for peptide retention time prediction across diverse proteomic datasets.
- Supervised and mentored four MSc students, providing guidance on research and engineering workflows.

Visiting Researcher — EMBL (Germany) | CRG (Spain) | FH Upper Austria (Austria) 2022 – 2024

- Developed Python-based QA packages that reduced manual review effort and accelerated tasks by ~10×.
- Invited speaker at CRG; assessed and optimized retention-time prediction for histone-focused workflows.

Head of Informatics Department — Petrozist Co. (Iran) 2019 – 2020

- Led the IT team and resolved network security system issues. Developed and maintained the corporate digital infrastructure and web systems.

Informatics Engineer — Tom Electronic (Iran) 2013 – 2019

- Developed CRM automation tool, maintained IT infrastructure, and Supervised CNC/laser production workflow.

PROJECTS

iDeepLC — Retention Time Prediction (PyPI) 2021 – Present

Deep-learning predictor for modified peptides. Demonstrated lower Relative MAE (%) compared to existing models across multiple datasets.

Mokapot ML Rescoring 2022 – 2024

Implemented and benchmarked mokapot-based ML rescoring to increase PSMs identification while controlling FDR.

MGF2PyTorch — Spectral ML Dataset Converter 2025

Tool to convert MGF spectra into compact HDF5 datasets for fast retrieval and optimized PyTorch training.

EMBO Excel and Image Compare Tools 2024

Two Python tools that reduced manual review effort and accelerated QA checks by ~10× at EMBL.

ProteoBench & Rusteomics 2023 – Present

Contributor to open-source benchmarking and high-performance Rust-based proteomics initiatives.

ML Foundations: CNN Denoising & Face ID 2018 – 2020

Developed a CNN-based Gaussian noise removal framework (MSc Thesis) and prototype face identification pipelines.

EDUCATION

- **PhD Medical Biotechnology** — Ghent University (Belgium) (2021–Present)
- **MSc Artificial Intelligence** — Kharazmi University (Iran) (2017–2020)
- **BSc Computer Engineering** — IAUCTB (Iran) (2012–2017)

CERTIFICATES & TRAINING

AI, ML & Engineering

- LLMs as Operating Systems: Agent Memory – DeepLearning.AI (2025)
- Deep Learning Specialization – DeepLearning.AI / Coursera (2022)
- Machine Learning with Python – IBM (2022)
- Git and GitHub – Google (2025)
- Artificial Intelligence Essentials & Intro – IBM (2025)
- Introduction to Software Engineering – IBM (2025)

Professional & Skills

- Advanced Project Management (240 Hours) – Univ. of Tehran (2019)
- Dutch Language Proficiency B1 – Groeipunt (2025)
- Conflict Transformation – Emory University (2025)
- Job Success Career Course – SUNY (2025)
- IELTS Academic Band 7 – British Council (2017)
- ACS Migration Skill Assessment – ACS (2019)

AWARDS & RECOGNITION

- **Best poster audience award** – EuBIC 2024
- **3-Minute Thesis finalist** – HUPO 2023, 2024, 2025 (Three-time finalist)
- **Top 30 ECR poster** – HUPO 2024, 2025 (Selected from 1,100+ submissions)