

Majid Khoshrou

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PROFILE

Data Scientist with 10+ years of experience bridging academia and industry, driving impactful solutions across energy, mobility, and infrastructure. Expert in machine learning, time series forecasting, NLP, and Generative AI, with a proven record of transforming complex, heterogeneous data into actionable insights and production-ready systems. Known for delivering scalable, accurate, and explainable models in agile, cross-functional environments, I combine strong analytical skills with a pragmatic, results-driven mindset.

An advocate for open-source innovation, I contribute to initiatives such as OpenSTEF and develop independent AI tools for my own platform, majidkhoshrou.com. My work spans diverse domains—from energy systems and robotics to marine science and decision intelligence—united by a commitment to applied, ethical AI that creates measurable business and societal impact.

SKILLS

Programming & ML: Python, SQL, MATLAB, PySpark, Bash, scikit-learn, Pandas, NumPy, TensorFlow, PyTorch, XGBoost, LightGBM, spaCy

Generative AI & LLMs: Retrieval-Augmented Generation (RAG), OpenAI APIs, LangChain, Prompt Engineering, Embedding Pipelines, FAISS Indexing

Data & Cloud Platforms: AWS, GCP, Azure, Databricks, Docker, Git

Analytics & Visualization: Power BI, Tableau, Matplotlib, Seaborn, Plotly

Methods: Time Series Forecasting, NLP, Risk Modeling, Probabilistic Modeling, Anomaly Detection

Collaboration & Management: Agile/Scrum, JIRA, Confluence, Stakeholder Engagement

Open Source: Contributor to [OpenSTEF](#) (Energy Forecasting Library)

Languages: English (Fluent), Dutch (Intermediate), Persian (Native)

WORK EXPERIENCE

Senior Data Scientist, Alliander – Arnhem

Jan 2023 – Present

- Increased day-ahead allocation forecast accuracy by 30%, delivering over one million euros annual cost savings.
- Identified major cost-reduction opportunities via in-depth analysis of energy settlement pricing.
- Enhanced OpenSTEF open-source library, improving usability and model robustness.
- Developed statistical risk models to assess and mitigate grid reliability issues.
- Standardized model validation processes across teams, ensuring consistent performance tracking.

Postdoctoral Researcher, Centrum Wiskunde & Informatica – Amsterdam

Jul 2020 – Dec 2022

- Built accurate EV charging demand forecasts to guide urban mobility infrastructure planning.
- Introduced carbon impact metrics for server clusters, shaping sustainability reporting practices.
- Co-taught graduate-level courses in AI and game theory, improving student engagement and understanding.

Data Scientist, Maistering B.V. – Amsterdam/Rotterdam

Nov 2019 – Jul 2020

- Designed customer segmentation models that improved marketing ROI.

- Delivered ML-powered product features for enterprise clients, enhancing market value.
- Accelerated deployment of analytics pipelines through cross-team collaboration.

PhD Researcher, CWI & TU Delft – Netherlands

Dec 2015 – Nov 2019

- Developed probabilistic forecasting techniques that improved smart grid prediction reliability.
- Created anomaly detection methods to strengthen grid health monitoring.
- Published peer-reviewed research advancing time series analysis in energy systems.

Machine Learning Researcher, C2SR Lab – Porto, Portugal

May 2013 – Oct 2015

- Developed real-time learning algorithms that improved marine robotics navigation efficiency.
- Improved adaptive sampling strategies for more effective ocean mission data collection.

Project Member, EDSAB Co. – Tehran, Iran

Feb 2011 – Feb 2012

- Developed ML models to detect anomalies and potential fraud in national smart meter datasets, improving theft detection accuracy and reducing grid losses.
- Developed long-term energy demand forecasts for national infrastructure planning.

AI PROJECTS

Mr M - Domain-Specific Generative AI Assistant

2025 – Present

- Designed and deployed a personalized AI assistant trained on my own academic and professional materials.
- Built a robust RAG pipeline using OpenAI embeddings and FAISS for semantic search with context-restricted QA.
- Implemented automated text extraction, chunking, and semantic embedding across heterogeneous sources.
- Ensured explainability and trustworthiness through traceable answers linked to original sources.

EDUCATION

PhD in Artificial Intelligence, *CWI and Delft University of Technology*

2015 – 2022

Thesis: "Singular Value Decomposition for Time Series Analysis in Smart Energy Systems"

MSc in Information Engineering, *University of Porto, Portugal*

2012 – 2015

Thesis: "Real-Time Unsupervised Motion Learning for Autonomous Underwater Vehicles"

BSc in Electrical Power Engineering, *Babol Noshirvani University of Technology, Iran* 2002 – 2007

CERTIFICATIONS

- [Google Advanced Data Analytics Certificate](#) (2024)
- [Google IT Support Specialization](#) (2021)
- [Statistics Fundamentals with Python Track](#) (2019)
- [Data Scientist with Python Track](#) (2019)

ADDITIONAL INFORMATION

Work Eligibility: EU citizen (Dutch nationality), also holds Iranian citizenship

Interests: Fitness, photography, travel, museums, technology, chess