



Mahtab *Baayen*

AI / ML SPECIALIST & SYSTEM ENGINEER

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[\[email protected\]](#)

AI/ML Specialist and System Engineer with a M.Sc. in Artificial Intelligence from Maastricht university. Proven track record developing production-ready machine learning solutions, NLP systems, and computer vision applications. Patent holder with 10+ years bridging research and industry — expert in Python, deep learning frameworks, and cloud deployment.

EXPERIENCE

System Engineer

June 2025 — Present

Maestronic

- Design and implement embedded systems for industrial applications
- Develop real-time computer vision solutions for manufacturing quality control
- Integrate AI/ML models into edge computing devices for automated inspection

AI Specialist / Data Scientist

Sep 2024 — Jun 2025

Conclusion Intelligence — Consultant for APG Pensionfonds, Heerlen

- Developed knowledge graphs and ontologies for Dutch pension regulations using NLP and LLMs
- Built automated information extraction pipelines processing complex legal documents
- Implemented semantic search and query systems for regulatory compliance

M.Sc. Research — AI Focus

2021 — 2024

Maastricht University

SKILLS

AI / ML

Machine Learning

Deep Learning

NLP & LLMs

Computer Vision

Data Engineering

Model Deployment

LANGUAGES & FRAMEWORKS

Python

R

C++

Java

TensorFlow

PyTorch

OpenCV

scikit-learn

CLOUD & INFRASTRUCTURE

- Deep learning models for real-time shockwave detection in traffic video streams
- Computer vision pipeline extracting traffic heterogeneity metrics from surveillance footage
- Published research on CNN and LSTM architectures for traffic pattern recognition

Traffic Systems Consultant

2018 — 2019

Sweco

- Designed adaptive traffic control algorithms improving flow by 15–20%
- Deployed intelligent transportation systems (ITS) for major infrastructure projects

R&D Researcher

2016 — 2018

Dynniq

- Invented and patented a green wave traffic control system (Patent granted 2018)
- Coordinated multiple EU-funded research projects and grant applications

Ph.D. Researcher

2011 — 2016

TU Delft — Traffic & Transportation Department

- Developed unified multi-scale traffic flow modeling framework
- Published 7 peer-reviewed papers; Best Paper nomination at IEEE ITSC 2013
- Received NWO Ph.D. Grant (2011)

KEY ACHIEVEMENTS

Patent (2018) — "A System for Controlling Traffic Lights" — granted patent for an innovative green wave system

Best Paper Nomination — 16th IEEE ITSC Conference (2013)

Publications — 7 peer-reviewed conference papers in IEEE ITSC, TRB, and TGF

AWS

Azure

Docker

PostgreSQL

Spark

Git / CI/CD

DOMAIN

Ontology Development

Traffic Systems

Pattern Recognition

Predictive Modeling

EDUCATION

M.Sc. Artificial Intelligence
Maastricht University
2021 – 2024

M.Sc. Computational Engineering
Ruhr University Bochum, Germany
2006 – 2010

B.Sc. Water Engineering
University of Tehran, Iran
2002 – 2006

LANGUAGES

Persian	Native
English	Advanced
Dutch	B2
German	Intermediate

