RÉKA GÁBOSI

JUNIOR AI/ML ENGINEER
CIVIL ENGINEER TRANSITIONING INTO AI

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EDUCATION

2015 - 2017

TECHNICAL UNIVERSITY OF CLUJ NAPOCA

- Master's in Building pathology and rehabilitation

2011 - 2015

TECHNICAL UNIVERSITY OF CLUJ NAPOCA

- Bachelor's in Civil Engineering

WORK EXPERIENCE

2016 - PRESENT

CIVIL ENGINEER (PROJECT MANAGER | TEAM LEADER)

9+ years in civil engineering, with 8 years as a project manager and 4 as a team leader. Strengthened analytical, time management, and problem-solving skills now applied to AI and data-driven solutions.

LANGUAGES

- Hungarian - Native
- Romanian - Fluent (C2)
- English - Fluent (C1/C2)
- German - Basic (A2)

PROFILE

Aspiring AI/ML Engineer transitioning from a 9-year career in civil engineering, bringing strong analytical thinking, problem-solving, and project leadership. Developing hands-on experience in machine learning, deep learning, and generative AI using **Python**, **TensorFlow**, **PyTorch**, **Keras, scikit-learn, Pandas, NumPy, and Hugging Face**. Experienced in building and training **models for prediction**, **computer vision**, and **NLP**, supported by a growing portfolio of practical projects. Combining engineering discipline with a passion for developing useful, real-world AI solutions.

CERTIFICATION

- IBM AI Engineering Specialization
- IBM Generative AI Engineering Specialization
- AI Security: Risks, Defences and Safety – Macquarie University
- AWS Cloud Technical Essentials
- Harvard CS50's Introduction to Artificial Intelligence with Python
- Harvard CS50's Introduction to Programming with Python
- Harvard CS50's Introduction to Computer Science
- Harvard CS50's Introduction to Databases with SQL
- Harvard CS50's Introduction to Cybersecurity

PROJECTS

- **Concrete Strength Prediction (ML vs AI) - 2025**
  - This project predicts how strong a concrete mix will be based on its ingredient composition.
  - Built using Python, Scikit-learn, TensorFlow/Keras, Pandas, NumPy, and includes a Tkinter GUI and SQLite database to store and compare results from ML and AI models.
  - It demonstrates end-to-end development: preprocessing, model training, evaluation, and deployment.
- **SafeBubble (Dynamic Safe-Zone AI for Wearable Depth Sensors) - 2025**
  - This system detects nearby people or objects and warns the user when someone gets too close or approaches too fast.
  - Developed using YOLOv8, OpenCV, Python, NumPy, and depth data processing to estimate distance, motion, and time-to-collision.
  - It visualizes a real-time "safety bubble" around the user using RGB+Depth video, offering clear proximity awareness that could support wearable assistive systems.
- **ASL Hand-Tracking Translator (AI + ML + NLP) – 2025**
  - Developed an experimental pipeline to recognize American Sign Language (ASL) hand signs from video using MediaPipe for hand tracking, custom hand-landmark datasets, and ML models for gesture classification.
  - Implemented optional NLP/LLM post-processing to convert predictions into readable text.

For a deeper look into these projects or to explore more of my work, please visit https://reka-gabosi-portfolio.onrender.com/programming

SKILLS

Programming and Databases: Python, C, SQLite
AI / ML Frameworks: TensorFlow, PyTorch, Keras, scikit-learn, Hugging Face / Transformers, LangChain, RAG
Web and Deployment: Flask, AWS, HTML, CSS
Data and Analysis: Pandas, NumPy
Skills: Problem Solving, Leadership, NLP, Prompt Engineering