DIANA MARUSIC

marusicdiana@gmail.com https://www.linkedin.com/in/diana-marusic/ https://github.com/mdiannna

PROFESSIONAL EXPERIENCE

Machine Learning Engineer – AIDY Health

May 2024 – present

- Developed healthcare applications using Generative AI.
- Implemented a custom LLM-based AI assistant.
- Collaborated in an Agile environment, managing sprints and backlogs using Agile methodologies.

Working Student - Web Developer - Hildesheim Universität

June 2022 - September 2023

- Built web applications using FastAPI and Vue.js.
- Collaborated in an Agile environment.
- Deployed web applications using Docker.

Machine Learning Engineer – Billheap

July 2020 - October 2021

- Developed an AI-based platform for extracting data from invoices, enhancing accuracy and efficiency of data processing.
- Implemented OCR (Optical Character Recognition) techniques and trained custom OCR models for Romanian language to accurately extract and classify invoice data.
- Designed and optimized machine learning models using TensorFlow and PyTorch to improve extraction performance.

Junior Web Developer – UPDIVISION

April 2017 - October 2021

- Developed and maintained websites for clients across various industries, ensuring high-quality and responsive designs.
- Collaborated with designers and project managers to translate client requirements into high-quality, functional websites.
- Used HTML, CSS, JavaScript, and modern frameworks to build and enhance web applications.

SOFT SKILLS

- **Quick Learner**
- **Effective Communicator**
- **Public Speaking**
- **Storytelling**
- **Team Player**
- **Problem Solver**
- **Highly Adaptable**
- **Creative Thinker**

EDUCATION

Master in Data Analytics - Stiftung Universität Hildesheim (Germany)

Oct 2021 - Oct 2023

Bachelor in Software Engineering - Technical University of Moldova (Moldova)

Sep 2019 - June 2021

Bachelor in Computer Science - University of Bucharest (Romania)

Oct 2016 - June 2019

TECHNICAL SKILLS

Machine Learning & AI:

- Generative AI
- TinyML
- Explainable AI
- Neural Networks
- Deep Learning
- Natural Language Processing (NLP)
- Computer Vision
- Reinforcement Learning
- Prompt Engineering
- HuggingFace
- TensorFlow
- PyTorch

Programming:

- Python
- C
- C++
- JavaScript

Data Analysis & Visualization:

- Exploratory Data Analysis (EDA)
- Pandas
- NumPy
- Matplotlib
- Seaborn

Databases:

- SQL
- MongoDB

DevOps & Tools:

- Docker
- GitHub
- Google Cloud Platform (GCP)
- NVIDIA cuDNN

Project Management

- Agile Project Management

LANGUAGES

- English - C1
- German - B2
- Russian - C1
- Romanian - native

RESEARCH INTERESTS

- Generative AI
- TinyML
- Explainable AI
- AI in Healthcare
- AI-driven Creativity
- Human-AI Collaboration

PUBLICATIONS

- Attention-Based Diffusion Model for Multivariate Probabilistic Time Series Forecasting (MARUSIC, D; FRICHE, N; KARTHIK, J; TYAGI, P; HUNDUZA, A; AHMED, N)

- Designing an efficient environmental sensor map inside university classrooms (MARUSIC, D; EJOVA, E; VEREBCEANU, M; CIOCAN, L.).

PROJECTS

Optimizing TSP solutions with subgraph decomposition and Reinforcement Learning

January 2022 - September 2023
Developed a hybrid algorithm for solving the Travelling Salesman Problem with Reinforcement Learning and unsupervised methods, able to scale to up to 1.9 million nodes TSP

Multivariate Probabilistic Time Series Forecasting for Energy Consumption

February 2022 - June 2023

Collaborated in an international team of 5 to develop "TransformerGrad," a model for energy consumption prediction using deep learning techniques such as TimeGrad, Autoformer, RNN, Generative models, and N-HiTS. Presented findings and model performance to academic supervisors and peers, highlighting the model's potential in practical applications.

AI system for recommending similar posts about lost and found pets

September 2020 - June 2021
Project developed as part of my bachelor thesis, and it was applied to match similar posts about lost and found pets. It used CNNs for image similarity and NLP techniques for text similarity.

System for recognizing data from images from ID cards

March 2021 - May 2021

Developed a system for extracting essential information from ID cards using OCR models and advanced image processing techniques.

ADDITIONAL INFORMATION

- **Volunteering:**
  - **“AI in Action” , Moldova** - Contributing to the development of the first Artificial Intelligence community in Moldova
  - **“GirlsGoIT program”, Moldova** - Trained more than 100 young women from Moldova about Coding in Python, Data Science, Web Development and Robotics
- **Public speaking**: Speaker at TEDx RoseValleyParkED, Moldova
- **Personal Interests**: music, reading, sports, painting.