

Shadi Danhash

Software Developer - AI Engineer

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Profile Summary

Software Developer with 3+ years of experience in **Software Development**, **Machine Learning** model development, **backend systems**, and **NLP** applications. Skilled in **Python**, **TensorFlow**, **PyTorch**, and **data engineering**, with expertise in **model training**, **optimization**, and **deployment**. Experienced in integrating **AI** solutions into real-world applications, including **e-commerce**, **NLP**, and **sensor fusion**. Familiar with **prompt engineering** and optimizing large language models. Seeking to apply my technical skills in **machine learning** and **AI** to contribute to innovative projects.

Professional Experience

Machine learning Engineer
CMCC Foundation

Feb 2025 – Present

- Conducting research on climatic phenomena to develop an early warning support system. Adding new crucial steps to the system pipeline. (Ongoing)
- Built **machine learning** models for **forecasting** and **predicting drought indicators**, incorporating various ML approaches and **feature engineering** techniques.
- Analyzing climate datasets to extract key insights, supporting data-driven decision-making for environmental application.

AI Researcher
Eötvös Loránd University

Sep 2023 – Aug 2024

- Designed and developed novel approaches to integrate **Abstract Syntax Trees (ASTs)** into **Transformer-based models** that are able to process longer code sequences and perform better on edge cases.
- Designed efficient **data preprocessing** using **Pandas**, **NumPy**, **TensorFlow Data**, and custom **Data Loaders** that reduced training time and improved data quality for better performance of ML models.
- Designed and tested **machine learning model architectures** using **PyTorch** and **TensorFlow**, studied their applicability for solving software engineering tasks, and analyzed their performance in different scenarios.
- Integrated **containerization tools** such as **Apptainer** to make the complete flow from **data preprocessing** to training seamless, replicable, and efficient in an **ML pipeline**.

Software Engineer (Sensor Fusion, C++)
Continental

Aug 2023 – Aug 2024

- Developed **data visualization** tools and scripts in **Python** to analyze and debug real-time sensor fusion outputs, allowing for better decision-making and system optimization.
- Implemented advanced **clustering algorithms** for sensor data processing to enhance **accuracy** and **robustness** in real-time fusion systems.
- Ensured software **reliability** in safety-critical systems by refactoring and maintaining complex software components with cross-functional **Agile teams**.
- Enhanced code quality via **Heavy Peer Reviews**, **static analysis**, and **unit testing**, adhering to industrial standards while developing critical systems.

Software Engineer (Python, Flutter)
Madfox Solutions Start-Up

Jan 2021 – Aug 2022

- Developed and maintained **backend features** for **CRM** and **e-commerce applications**, integrating **APIs** and streamlining data handling processes.
- Utilized **TensorFlow** and other **deep learning models** in creating art and NFTs, adding a new feature to an e-commerce application and increasing user engagement.
- Developed more than **8 different mobile applications** using **Android** and **Flutter**, with experience in **state management**, **Firebase** integration, and third-party SDKs.

Skills

Programming Languages: Python , C++ , JavaScript.

Machine Learning: TensorFlow, PyTorch, Scikit-learn, Keras, Numpy, Pandas, TF Lite

Data Engineering: Data preprocessing, TensorFlow Data, Data Loaders, Data pipelines

DevOps: Docker, Apptainer, Jenkins, CI/CD pipelines.

Data Visualization: Matplotlib, Seaborn, Plotly, OpenCV

Software Engineering: Git, Agile, Code reviews, Unit testing, Helix, Jira, Linux.

Soft Skills: Collaboration, problem-solving, adaptability, and effective communication in cross-functional teams.

Education

MSc in Computer Science – Artificial Intelligence

2022 – 2024

Eötvös Loránd University

- Stipendium Hungaricum Scholarship recipient. Graduated with Excellent qualifications.

BSc in Information Technology Engineering – AI and NLP

2016 – 2021

Damascus University

- Graduated with Very Good qualifications, ranked fourth-highest in the university.

Projects

JumlaTech (Jan 2022 - Aug 2023):

- Developed backend features for an e-commerce platform, including RESTful APIs and PostgreSQL integration.
- Built data pipelines for real-time analytics, optimizing product recommendations and customer insights.
- **Skills:** Python, PostgreSQL, REST APIs, Data Engineering, ERP, CRM, Odoo, HTML.

IntelliEye (Sep 2020 - Aug 2021):

- Developed an eye-tracking system for ALS patients to generate text through eye movement.
- Applied Computer Vision and Machine Learning using PyTorch and Pandas for accurate eye movement tracking.
- **Skills:** Pandas, OpenCV, NLTK, PyTorch, Eye Tracking, Model Training

FoodLens (Sep 2019 - Aug 2020):

- Built a food recognition mobile app with TensorFlow Lite and CNN, optimized for mobile devices.
- Integrated a recommendation system to suggest food based on user preferences.
- **Skills:** TensorFlow Lite, CNN, Transfer Learning, Recommender Systems, Android

Achievements

NLP & FM Ace Award: Recognized for excellence in NLP and foundation models.

ICPC Certificate of Achievement: Demonstrated excellence in algorithmic problem-solving.