# Oleksandr Petsa

I am passionate about artificial intelligence, machine learning, and robotics, and I am eager to apply my knowledge to solve real-world challenges.

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## WORK EXPERIENCE

### Recognition of generated photos

- This project implements a deep learning model for recognition real and generated images using TensorFlow/Keras, structured with modular components and configurable path.

### Bachelor's work

- This bachelor's work is about analyzing data and setting up monitoring screens using the Grafana visualization platform. Its main goal is to develop and implement a data visualization program for effective monitoring of processes and systems. The work focuses on analyzing available data sources, connecting them to the PostgreSQL database system, and then processing the data for visualization. The proposed methodology includes data collection, transformation, and storage, monitoring panel design, and Grafana configuration to display key parameters. The result is the creation of a monitoring solution that allows visualization of important indicators and supports the decision-making process in system management. The last part of the thesis evaluates the functionality of the implemented solution and its contribution to effective monitoring.

### AITS

June 2024 - Present

- My task was to visualize data within Google Cloud Monitoring, collect metrics from a virtual machine using Prometheus, and transfer them to Grafana for real-time dashboarding, alerting, and performance analysis of the system.
- I also recently finished working on a logistics task that focused on finding the shortest route between points. It works as follows: a json file is sent to a server running on FAST API, then Google Maps API (Routes API) is used, which shows us the distance from each point to every other point and returns a matrix of all distances. Then we use the TSP algorithm to select the shortest path — first, the closest next point is selected from the starting point, then the closest point from that closest point, and so on. At the end, a route is also built from the last point to the starting point, i.e., we have a closed circle. The project is on my GitHub.

## EDUCATION

### Technical University of Košice

Bachelor of Intelligent Systems — September 2022 - June 2025

- Completed my bachelor's degree in 2025.

Master of Intelligent Systems — September 2025 - Present

- I am going to complete my master's degree in 2027.

## SKILLS

- Python: Proficiency in Python for AI and machine learning projects, including neural networks.
- TensorFlow: Experience with machine learning frameworks for building and training models.
- PostgreSQL: Basic knowledge of SQL for data storage, queries, and database management.
- Google Cloud Platform & API's: Basic experience with cloud computing and Google's API usage.
- HTML, CSS: Skilled in creating web layouts and styling pages for projects and portfolios.
- OpenCV: Experience in computer vision projects using image processing techniques.
- C: Basic understanding of algorithms, data structures, and low-level programming concepts.
- Docker, Git: Some experience with containerization and version control tools for collaborative projects.
- Linux: Proficiency in working with command-line tools and scripting.
- C#: Basic understanding of object-oriented programming, data structures, and .NET framework.
- Flask, FAST API: Basic knowledge of web application development, and routing.
- MATLAB: Some experience with numerical computing, simulations, and basic scripting.
- Grafana: Know how to connect various plugins and databases and visualize data.

## LANGUAGE

**Ukrainian** Native Language (C2)

**English** B1-B2 level

**Slovak** B1 Level