

Marcel Rojewski

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SUMMARY

Aspiring AI engineer and Artificial Intelligence student at Poznan University of Technology with a passion for Machine Learning, Computer Vision, and Data Analysis. Experienced in building projects that apply Deep Learning techniques to solve real-world problems. Enthusiastic about exploring how data-driven insights can improve decision-making and automation. Constantly learning and seeking opportunities to contribute to innovative AI solutions.

EDUCATION

Poznan University of Technology
Bachelor, Artificial Intelligence

Oct. 2022- Current
Poznań, Poland

PROJECTS

Image Search Engine

Developed an image search engine that retrieves similar images based on input queries using **embeddings** from deep learning models like **ResNet50** and custom **contrastive learning** models (e.g., Triplet Loss, Siamese Networks).

AI`nspired

Analyzed the influence of AI-generated versus web-sourced visual inspiration on the "Tram of the Future" design. Utilized **computer vision techniques** to assess similarities in color, contrast, and design, followed by **statistical analysis** to compare the two sources' impact on final design outcomes.

Board Game State Detection

Created a system to automatically annotate board game playthrough videos using **OpenCV**, detecting pawn positions, scores, and dice rolls across various camera angles via **perspective transformation**.

Image Segmentation

A Deep Learning model for automatic crack detection on tiles. Built from scratch using the **U-Net** architecture in **TensorFlow**, the model segments cracks by generating binary masks from input images. The project involves data preprocessing, model training with **binary cross-entropy loss**, and performance evaluation using metrics such as Intersection over Union (IoU) and Dice coefficient.

SKILLS, TECHNOLOGIES, LANGUAGES & INTERESTS

- **Skills:** Version Control (Git); Data Visualization; Computer Vision; Data Analysis; Deep Learning; Machine Learning
- **Technologies:** Python; TensorFlow; OpenCV; Pandas; Seaborn; R; Shiny
- **Languages:** Polish (Native); English (C1)
- **Interests:** Alternative Coffee Brewing Methods; Discovering New Music; Fantasy Books, Musical Theater