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Personal Profile

An ML Engineer with ~4 years of experience. My responsibilities have ranged from Software/ML/Research engineer as well as applied scientist. Affinity towards computer vision problems, but generally enthusiastic about neural networks for all purposes

Work Experience

Intis

Machine Learning Engineer

Zagreb, Croatia

Sep 2024 - Current

- Writing code for a fast and scalable planogram optimisation service, and a KYC user ID verification service
- Deployed both of these services and made sure they scaled and behaved nicely on the company's AWS kubernetes cluster

TensorPix

Research Engineer (Computer vision)

Zagreb, Croatia

May 2023 - Aug 2024

- Trained and deployed efficient GAN video restoration/superresolution models, every model I shipped was faster and better than the one it replaced

University of Zagreb, FER

Zagreb, Croatia

Young Researcher (Computer vision)

April 2022 - April 2023

- A collaboration between academia and industry. We helped develop solutions for inventory management in retail environments using computer vision. [project website](#)
- Studied the state of the art in depth estimation, neural radiance fields and oriented bounding box detection
- Used my novel evaluation metric to significantly reduce the memory footprint of my network.

AI Technologies, d.o.o.

Zagreb, Croatia

Computer Vision Engineer

April 2021 - September 2021

- A proof-of-concept project where the goal was detection of broken insulators on powerlines. Data was gathered from drones.
- Wrote the entire NAS->inference->report pipeline. + trained the networks used

Education

Faculty of Electrical Engineering and Computing

Zagreb, Croatia

MSc in Computer Science

Sept 2018 - Current

- Paused, 14/18 courses completed
- Courses worth mentioning: Analysis and text retrieval, Neural networks, Artificial Intelligence, Machine Learning, Statistical Analysis of Data, Advanced Algorithms and Data Structures, Scripting languages, Computer Graphics

Faculty of Electrical Engineering and Computing

Zagreb, Croatia

BSc in Computer Science

2015 - 2018

- Bsc Thesis: Method for counting people in sequences of images: [youtube clip](#)

Science and mathematics high school

Split, Croatia

High School

2011 - 2015

- Participated in physics, math and programming competitions at various levels

Service

Reviewer

CVPR NTIRE2024 workshop

Skills

Python

asyncio, pytorch (lightning), airflow, xgboost, boto3, pandas, pytest, openCV, kornia, sklearn, numpy, multiprocessing

Programming

Linux, AWS, Kubernetes, Docker, Redis, RabbitMQ, kafka, bash, ffmpeg, C/C++, SQL/NoSQL

Miscellaneous

Reading ML papers, L^AT_EX, CVAT, git, assembling computers for ML workflows, WeakAuras

University/Hobby Projects

I have created my own website to go in depth on all the projects I've worked on over the years, there i go more in depth explaining what I did and how + I wanted less words in my CV.

My website/blog

Fine tuning dreambooth to generate my favorite soccer player with the UCL trophy

Hobby

- I talk about it on [my blog](#)

A world of warcraft fishing bot using computer vision

Hobby

- Check out the github repository here: [repo link](#)

Projected GAN for art generation

Hobby

- Check out the demo here: [huggingface space](#)
- This network has gained some attention locally, and was displayed alongside Hana's work at multiple art galleries around the country

Method for People Counting From Image Sequence

Bachelor Thesis, mentor: Sven Lončarić

- Check out the short demo here: [youtube video](#)

Music genre classification from lyrics

Text Analysis and Retrieval course project

- You can check out the project report here: [Project Report](#)

Pix2pixGAN for generating facial expressions

Neural Network course project

- You can check out the [Project Report](#) (This one is in Croatian)

Fine-tuning english GPT-2 for rap lyric generation

Hobby

- Check out the demo here: [huggingface space](#)

Retinal fluid segmentation using 2D U-net

Graduate project

- This was done as my graduate project, the dataset I had was the same one used in the [Retouch Challenge](#). Experimented with different/new loss functions and observed how the end result changes with respect to the loss function with interesting results

Using ESRGAN for achieving superresolution

Seminar Course

- Studied GANs and how they could be used for superresolution in images, and various difficulties the traditional approach had in achieving superresolution

Awards and honors

Leader/Organizer of the sports climbing section at my university, For two years I was responsible for leading the sports climbing section for my university's PE course.

Croatian national high school physics competition 2014,

Languages and hobbies

English Fluent

Croatian Native

Hobbies Working with PC hardware, music, video games, bouldering, film,