Jakub Povinec

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About Me

I am a software engineer, with a master's degree from the Slovak Technical University, where I focused primarily on machine learning, particularly computer vision.

Education

Bachelor's degree, Computer Science *Jun 2022*
Faculty of Informatics and Information Technologies, STU *Bratislava, Slovakia*
***Courses**: Linear Algebra, Probability & Statistics, OOP, Data Structures & Algorithms, Computer Networks, Operating Systems, Database Systems, Algorithmic Complexity, Development of Effective Algorithms, Data Science & Data Analysis*

Master's degree, Computer Science *Jun 2024*
Faculty of Informatics and Information Technologies, STU *Bratislava, Slovakia*
***Courses**: Advanced Database Systems, Neural Networks, Knowledge Discovery, Statistical Methods for Experiment Evaluation, Computer Vision, Development of Cloud Applications, Architecture of Computer Systems*

Technical Skills

Languages: Python | R | MatLab | Swift | JavaScript/TypeScript | SQL
Libraries: PyTorch | TensorFlow | OpenCV | Numpy | React | Svelte
Other: Git | Docker | Kubernetes | Azure | AWS

Projects

Method for Segmentation of Vestibular Schwannomas from Brain MRI Scans

Python, Pytorch, OpenCV, AzureML, Wandb

- Developed a method for segmentation of medical imaging data designed to significantly reduce the number of fully-annotated samples required for training.
- Proposed a custom multi-encoder U-Net architecture and a custom loss function.
- Designed a method for simulating user-clicks for easier and more effective training.
- GitHub

Style Transfer

Python, Pytorch, Gradio, AzureML, Wandb

- Implemented style transfer based on the Adaptive Instance Normalization (AdaIN).
- Built with PyTorch and trained on the Azure Machine Learning platform.
- GitHub | Demo App

Application for Management of Scientific Research Projects

Python, TypeScript, Nodejs, Nextjs, React, Django, PostgreSQL, Docker

- Part of a team, which developed an application for management of scientific research projects for the Slovak Center of Scientific and Technical Information.
- The application improved registration, monitoring, and overall management of research projects.
- My contributions primarily included data modeling, backend development and devops.