BRNO UNIVERSITY OF TECHNOLOGY
FACULTY OF INFORMATION TECHNOLOGY

Bachelor's Thesis Assignment

146201

Institut:	Department of Computer Graphics and Multimedia (UPGM)
Student:	**Držíková Diana Maxima**
Programme:	Information Technology
Specialization:	Information Technology
Title:	**Deep Learning for Image Stitching**
Category:	Image Processing
Academic year:	2022/23

Assignment:

1. Get familiar with deep neural networks and their learning.
2. Get acquainted with the problems of image stitching and keypoint detection. Become familiar with existing deep learning models suitable for the image stitching.
3. Prepare a dataset for your own experiments.
4. Implement chosen models and experiment with them.
5. Evaluate and compare your results using appropriate metrics. Discuss possible future work.
6. Create a short poster or video presenting your work, its goals and results.

Literature:

- Sarlin et al., "SuperGlue: Learning Feature Matching with Graph Neural Networks", *CVPR 2020,* https://arxiv.org/abs/1911.11763.
- Nie et al., "Deep Rectangling for Image Stitching: A Learning Baseline", *CVPR, 2022,* https://arxiv.org/pdf/2203.03831v4.pdf.

Requirements for the semestral defence:

- The first three items of the assignment.

Detailed formal requirements can be found at https://www.fit.vut.cz/study/theses/

Supervisor:	**Španěl Michal, Ing., Ph.D.**
Head of Department:	Černocký Jan, prof. Dr. Ing.
Beginning of work:	1.11.2022
Submission deadline:	10.5.2023
Approval date:	3.11.2022