BRNO UNIVERSITY OF TECHNOLOGY
FACULTY OF INFORMATION TECHNOLOGY

Master's Thesis Assignment

145570

Institut:	Department of Information Systems (UIFS)
Student:	**Lorenc Jan, Bc.**
Programme:	Information Technology and Artificial Intelligence
Specialization:	Information Systems and Databases
Title:	**Keyboard and Keys Image Recognition**
Category:	Computer vision
Academic year:	2022/23

Assignment:

1. Study machine learning methods for image recognition. Select relevant methods for the detection and recognition of keyboards and their keys in an image.
2. Create a suitable dataset containing image data with different types of keyboards, both physical and digital, and respective keyboard characters/symbols.
3. Design an application capable of creating an ML model for keyboard and individual key recognition based on the dataset from point 2.
4. Implement the application and create an ML model according to the proposal from point 3.
5. Test the application and the model using the dataset from point 2. Evaluate the results achieved.

Literature:

- Liu, Zongyi & Ferry, Bruce & Lacasse, Simon. (2019). A Deep Neural Network to Detect Keyboard Regions and Recognize Isolated Characters. 10.1109/ICDARW.2019.40095.

Requirements for the semestral defence:

- points 1, 2, and 3.

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

Supervisor:	**Pluskal Jan, Ing.**
Head of Department:	Kolář Dušan, doc. Dr. Ing.
Beginning of work:	1.11.2022
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