

Bachelor's Thesis Assignment



145041

Institut: Department of Information Systems (UIFS)
Student: **Pyšík Michal**
Programme: Information Technology
Specialization: Information Technology
Title: **Classification with Use of Neural Networks in the Keras Environment**
Category: Data Mining
Academic year: 2022/23

Assignment:

1. Get acquainted with the topic of classification, especially using various types of neural networks.
2. Study the possibilities of the Keras environment in detail, especially with regard to different types and topologies of neural networks.
3. In agreement with the supervisor, select suitable datasets and classification tasks for the purpose of experiments with this library.
4. Implement an experimental application and perform experiments showing the properties of individual neural networks.
5. Evaluate the achieved results and other possibilities for extending this project.

Literature:

- Han, J., Kamber, M.: Data Mining: Concepts and Techniques. Third Edition. Morgan Kaufmann Publishers, 2012, 703 p., ISBN 978-0-12-381479-1.
- Chollet, F.: Keras: the Python Deep Learning API [online]. 2021 [cit. 2021-10-01]. Available at: [<https://keras.io/>]

Requirements for the semestral defence:

No requirements.

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

Supervisor: **Bartík Vladimír, Ing., Ph.D.**
Head of Department: Kolář Dušan, doc. Dr. Ing.
Beginning of work: 1.11.2022
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