

# Call for Master/Bachelor Thesis

## “Benchmark for Re-use of Neural Networks”

(in English/German)

### What is the topic?

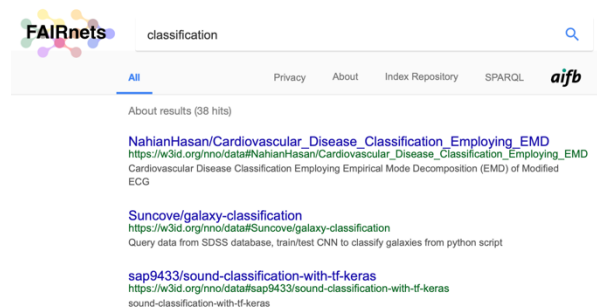
In order to train a neural network, you typically need a huge amount of data and computing power which you may not have. The field of Transfer Learning tries to tackle this problem by re-using neural networks.

FAIRnets [1] is a search engine for neural networks developed at our institute. Its data base consists of GitHub repositories using the library Keras [2]. On top of this, we want to build a recommender system for neural networks. However how do you evaluate the recommendation?

In this thesis, the idea is to develop a benchmark for (pre-) trained neural networks. Following questions can be considered: (1) What are the relevant features/parameters to re-use neural networks? (2) How can you find a ‘suitable’ one? (3) How can you measure the choice (besides accuracy and F1-score)? (4) Do we need a new benchmark to compare neural networks and how does it look like?

[1] <https://km.aifb.kit.edu/services/fairnets/>

[2] <https://keras.io>



### Which prerequisites should you have?

- Interest in neural networks and machine learning
- Python can be beneficial

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