

Master Thesis Seminar Talk

Progress Upade

Fabrice Beaumont

Lab Development and Application of Data Mining and Learning Systems:
Machine Learning and Data Mining

Supervisor: **Dr. Pascal Welke**

08.12.2021

- ▶ The precise research question of the master thesis has yet to be formulated
- ▶ General area: Based on my lab report '*Weisfeiler Lehman, Tree Metrics and the French Railway System*'
 - ▶ Implementation of a graph classification method
 - ▶ Using **Weisfeiler Lehman labels** and their **dependency-tree** T
 - ▶ Using **tree metrics** to derive a kernel from this tree T

Expanding the lab report to a research paper: Improvement of the program (w.r.t. runtime and capabilities).

- ▶ Rewriting the existing code to be more flexible and modular
- ▶ Testing of different implementation methods

- ▶ Research question
- ▶ Most efficient **distance matrix computation**, given a distance tree
- ▶ Possible improvements for the existing code/ method (w.r.t. the research paper)

- ▶ Further improve the code wrt to runtime:
especially w.r.t. the **distance matrix computation**
GOAL: *Present the evaluation of several implementations of the distance matrix computation (and WLLT creation)*
- ▶ Expand the representations in the lab report
(e.g. proofs and explanations)
- ▶ Literature research

Thank you all for listening.

I will be happy to answer any **questions** and
hear your **comments**.