

*Outline for a Bachelor/Master Thesis*

**Topic: Text-based analyses in patents and trademarks: How innovation is represented**

**Context:**

*The progress of a society depends strongly on its capacity to innovate. Measuring innovation is therefore of particular importance. The main existing innovation indicators are based on patents, which are used for numerous analyses such as country comparisons or technology classifications. Yet, patents do not reflect all innovation activities – especially service sector innovation without technical content are not contained in patent analyses. This is critical as a large part of the value added is in the service sector. As an alternative to patents for innovation analyses, trademarks could be better suited as a data basis for innovation recording. The aim thus is to examine trademarks in relation to innovations.*

**The following aspects should be included in the thesis:**

- (1.) A literature review on text-analyses methods, their advantages and disadvantages in relation to the analysed text data. An assessment of the data sets of trademarks and patents with a short introduction of their usage in innovation studies.
- (2.) Introduction to the innovation field that should be assessed (e.g. robotics, artificial intelligence, biotechnology, medicine) with an explanation of the nature of the innovation.
- (3.) Application of the chosen method in (1) on the relevant trademarks and patents in the innovation field.
- (4.) Assessment of the results achieved in (3) and combination of the two data sets in one analysis.
- (5.) Finally, the results achieved should be synthesized and discussed critically.

The thesis can be written in German or English.

**Requirements:**

Advanced knowledge in the field of innovation and programming is mandatory (and/or the motivation into acquire this knowledge)

Experience with SQL/ Python is of advantage but not mandatory.

**Your contact:**

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