

## **"Automatic Summarization and Citation Prediction in Veterans Claims Decisions"** **Matthias Grabmair, Technical University of Munich**

**Note:** This seminar will be exploring work at the intersection of NLP and law

### **Abstract:**

The US Board of Veterans Appeals (BVA) adjudicates large numbers of appeals of rejected applications for disability compensation by members of the armed forces. This talk will present two collaborative NLP research efforts on a corpus of BVA decisions with project members from CMU, Stanford, TUM, and Pitt. First, we composed extractive summaries of opinions from sentences that are predictive for the case outcome and evaluated them against human-extracted and human-drafted summaries. We observed that predictiveness is not a good proxy for summary-suitability of sentences. This result coheres with other AI&Law research on the utility of the outcome as a supervision signal for useful highlighting in case texts. Second, we implement a series of models that recommend legal source citations for a given BVA case context with the goal to facilitate efficient legal research and drafting. While neural models achieve decent metrics and outperform the baselines on this task, our experiments do not show a consistent benefit of using a classifier based on a pretrained transformer language model over a common recurrent architecture. Moreover, giving the model access to structured metadata about the case only impacts performance when the provided textual context is short.

### **Bio:**

Matthias Grabmair is a tenure-track Assistant Professor of Legal Tech in the Department of Informatics at the Technical University of Munich. Before joining TUM in January 2021, he worked as a Legal Data Scientist at the German legal informatics company SINC (2019-2020). Prior to that, he spent four years at Carnegie Mellon University's Language Technologies Institute working with Prof. Eric Nyberg as a Visiting Researcher, Postdoc, and Systems Scientist (2015-2019). He obtained a diploma in law from the University of Augsburg, Germany, as well as a Master of Laws (LL.M.) and Ph.D. in Intelligent Systems mentored by Prof. Kevin Ashley from the University of Pittsburgh.