



Breakfast Lecture

11.06.2025, 09:00 (s. t.)

Institut für Digitale Geisteswissenschaften, Elisabethstraße 59/III, Lehrsaal SR 81.31

UniMeet-Link: <https://unimeet.uni-graz.at/b/dus-i0l-spi-ujn>

Ali Çetinkaya

Selçuk University, Turkey

Automated Classification of Ottoman Court Records: Machine Learning Approaches to Historical Legal Texts

This presentation introduces a computational framework for automatically classifying 112,000 Latin-transcribed Ottoman court records (kadi sicilleri) into seven legal categories using machine learning. These historical documents, spanning centuries of Ottoman jurisprudence, chronicle everything from property transactions to family disputes across the empire's vast territories. While traditionally requiring years of specialized paleographic training to categorize, our approach demonstrates that modern NLP techniques can achieve over 92% accuracy in genre classification.

The study benchmarks four machine learning models – from traditional logistic regression to state-of-the-art transformer architectures – revealing how each captures different aspects of Ottoman legal language. Fine-tuned Turkish BERT excels at recognizing context-dependent formulas and long-range dependencies, while simpler models offer transparency through interpretable feature weights. Notably, the models' systematic confusions between Court Proceedings and Commercial Transactions mirror the genuine overlap in Ottoman legal practice, turning computational "errors" into historical insights.

Beyond technical metrics, this work demonstrates how digital methods can accelerate historical research while preserving domain expertise. By releasing an open dataset of 5,000 annotated records, we aim to foster collaborative research at the intersection of computational linguistics and Ottoman studies. The presentation will discuss both the methodological framework and its implications for digital humanities research on non-Western historical corpora.



Ali Çetinkaya is an Assistant Professor in the Computer Engineering Department at Selçuk University's Faculty of Technology. His research focuses on applied machine learning, natural language processing, and interdisciplinary collaborations between computational methods and cultural heritage analytics. He holds a PhD in Computer Science and has contributed to numerous projects integrating AI with historical document analysis, heritage preservation, and cross-disciplinary digital humanities research. His current work explores how computational approaches can unlock new insights from pre-modern textual corpora while respecting their cultural and linguistic complexity.

Breakfast Lecture will be held in a hybrid format, both in-person and online. A room is reserved for in-person attendance at the Department of Digital Humanities, Elisabethstraße 59/III, 8010 Graz