

Zgłoszenie tematu pracy dyplomowej :: STUDIA II STOPNIA ::

rok akademicki 2025/26

Promotor:	dr hab. Jozef Kapusta, prof. UKEN
Temat pracy magisterskiej (j. polski, j.angielski):	Fine-Tuning Models for Misinformation Detection <i>Dostrojenie wybranych modeli językowych w celu wykrycia dezinformacji</i>
Zakres pracy i oczekiwane rezultaty praktyczne:	<p>Given the growing volume of misinformation in the online space, the automatic detection of deceptive and misleading content has become one of the central challenges in contemporary natural language processing. Traditional approaches often suffer from limited generalization to emerging narratives, linguistic variation, and rapidly evolving topics. Recent transformer-based language models provide a strong foundation for this task; however, their practical effectiveness crucially depends on careful fine-tuning on domain-specific data.</p> <p>The main objective of this thesis is to design, implement, and experimentally evaluate fine-tuning strategies for selected transformer language models in the classification of misinformation and disinformation in online texts. The theoretical part will survey and critically analyze existing NLP-based approaches to misinformation detection and identify suitable model architectures and datasets for the proposed experiments.</p> <p>In the practical part, several baseline transformer models will be selected and fine-tuned for misinformation classification. Their performance will be systematically compared using standard evaluation metrics, and the results will be analyzed with respect to robustness and reliability. The thesis will also include a case study focusing on the application of a chosen fine-tuned model in a real-time misinformation detection scenario, including a prototype implementation demonstrating its practical feasibility.</p>
Aspekt naukowy, problemowy, innowacyjny pracy:	implementation methods natural language, implementation machine learning methods.
*Oprogramowanie, język programowania, środowisko systemowe:	
*Środowisko uruchomieniowe	
Dodatkowe wymagania i uwagi:	English language
*Literatura:	<ul style="list-style-type: none"> Bird, S., Klein E., and Loper, E. (2009). Natural Language Processing with Python - Analyzing Text with the Natural Language Toolkit. O'Reilly Media.

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	<ul style="list-style-type: none">• Bengfort, B., Ojeda, T., Bilbro, R. (2018). Applied Text Analysis with Python: Enabling Language - Aware Data Products with Machine Learning, O'Reilly Media, 332 p.• Ashish Vaswani, et. al. (2023). Attention Is All You Need. https://arxiv.org/abs/1706.03762• Vajjala, S., Shimangaud, S. (2025). Text Classification in the LLM Era - Where do we stand? https://arxiv.org/abs/2502.11830• Mroczkowski, R. et al. (2021). HerBERT: Efficiently Pretrained Transformer-based Language Model for Polish. https://arxiv.org/abs/2105.01735• Hu, E. J., et al. (2021) LoRa: Low-Rank Adaptation Of Large Language Models. https://arxiv.org/abs/2106.09685
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*pola opcjonalne