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):	Artificial Intelligence in the Automation of Accounting Processes *Sztuczna inteligencja w automatyzacji procesów księgowych*
Zakres pracy i oczekiwane rezultaty praktyczne:	The ongoing digitization of public and private administration has led to the rapid adoption of structured e-invoicing systems, such as the Polish National e-Invoice System (KSeF). While these systems standardize invoice formats and enable automatic exchange, the downstream accounting workflow still relies heavily on manual inspection, categorization, and validation. This creates a strong need for reliable AI-based methods that can automatically analyze structured invoice fields. The aim of this thesis is to compare and evaluate AI approaches for the automatic classification of structured e-invoices (from KSeF). The work will include a case study of a prototype system that applies AI methods to invoice analysis and classification. The investigated approaches will be assessed both in terms of efficiency relative to manual processing and by comparing the performance indicators of multiple AI models against one another. The theoretical part will summarize the domain context of e-invoicing and accounting automation, review existing approaches to automatic processing and classification of structured forms/documents, and survey related research in this area. An important component of the thesis will also be a detailed description and characterization of the dataset used for training and evaluation. The practical part will focus on dataset preparation, implementation and training of selected AI models, and systematic comparison of their performance—both against one another and against a manual reference workflow.
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:	• 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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	• 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.
	• Abbas, K. (2025). Management Accounting and Artificial Intelligence: A Comprehensive Literature Review and Recommendations for Future Research. The British Accounting Review.
	• Ministerstwo Finansów. (2024). Specyfikacja interfejsów Krajowego Systemu e-Faktur (KSeF) – Dokumentacja techniczna API
	• Schreyer, M., Sattarov, T., Borth, D., Dengel, A., & Reimer, D. (2017). Detection of accounting anomalies in the general ledger using deep autoencoder networks.
	• Géron, A. (2023). Hands-On Machine Learning with Scikit-Learn, Keras, and TensorFlow (3rd Edition). O'Reilly Media.

*pola opcjonalne

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