

# A Cross-Lingual Analysis of Bias in Large Language Models Using Romanian History

Matei-Iulian Cocu<sup>1</sup>, Răzvan Cosmin Cristia<sup>2</sup>, AND Adrian Marius Dumitran<sup>3</sup>

<sup>1</sup>*University of Bucharest*

*cocu.matei24@yahoo.com*

<sup>2</sup>*University of Bucharest*

*cristiarazvan@gmail.com*

<sup>3</sup>*University of Bucharest, Softbinator*

*marius.dumitran@unibuc.ro*

## Abstract

In this case study, we select a set of controversial Romanian historical questions and ask multiple Large Language Models to answer them across languages and contexts, in order to assess their biases. Besides being a study mainly performed for educational purposes, the motivation also lies in the recognition that history is often presented through altered perspectives, primarily influenced by the culture and ideals of a state, even through large language models. Since they are often trained on certain data sets that may present certain ambiguities, the lack of neutrality is subsequently instilled in users. The research process was carried out in three stages, to confirm the idea that the type of response expected can influence, to a certain extent, the response itself; after providing an affirmative answer to some given question, an LLM could shift its way of thinking after being asked the same question again, but being told to respond with a numerical value of a scale. Our research brings to light the predisposition of models to such inconsistencies, within a specific contextualization of the language for the question asked.

**Keywords:** Romanian History, LLM Linguistic Bias, LLM Training and Assessment, Natural Language Processing, Digital Humanities