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ARTIFICIAL INTELLIGENCE AND A CASE STUDY IN THE EDUCATIONAL CONTEXT OF YOUNG UNIVERSITY STUDENTS

In the era of digitalization, artificial intelligence (AI) emerges as an essential tool in the educational realm, with growing relevance for university students. This paper investigates the application of AI in the educational context, focusing on a case study among young adults (20-24 years old), outlining how AI can enrich the learning and research process. The work particularly concentrates on two key aspects: the use of AI as an assistive data mining tool and the application of AI in generative research processes and critical comparison.

The first part of the analysis highlights how AI can be employed to analyze and manage large volumes of data (Jordan & Mitchell, 2015), to predict and simulate events (Agrawal, Gans, & Goldfarb, 2018), to automate research processes (Chui, Manyika, & Miremadi, 2016), and to personalize the learning experience (Baker & Siemens, 2014). These applications portray AI as a potent data mining tool that can enhance the efficiency and effectiveness of research and learning processes.

In the second part, the paper explores how AI can be used to generate research hypotheses, identify patterns and trends in the data (King, 2009), conduct literature research and systematic reviews, and deconstruct the AI decision-making process to better understand how decisions are reached (Rudin, 2019).

In order to elaborate the theoretical aspects defined, a preliminary experiment was conducted with a class from the Faculty of Design (Communication Design) at the Politecnico di Milano, revealing methods and activities developed for exercise purposes in the context of the Digital Culture course. Students (50 MA students divided into ten groups of 5 members each) developed projects on digital culture, using AI to assist both in data collection and analysis, and in the generation of new ideas and critical analysis of the results. In the case study presented, students used AI tools to analyze a vast corpus of texts related to digital culture. Each group should design and develop a digital product according to the digital culture's productivity parameters, i.e., how can a designer apply AI to Instagramism and live stream of social media, digital publishing, e-commerce, …

The hypothesis is that AI enabled them to conduct a quicker and more efficient analysis than they could have done with traditional tools. Students need to identify trends, recurring themes, and connections between different studies and methodologies. They were asked to use AI tools to simulate potential evolutions of their assigned topics, finding plausible solutions and learning the dimension of self-construction of prompts.

Finally, students used AI to understand and critically compare different perspectives on digital culture through a "third-party" support such as AI. Through the use of techniques such as model interpretability and representation learning, students were able to "deconstruct" the AI decision-making process, gaining a deeper understanding of how conclusions were reached.

Our approach is aimed to maximize the benefits and minimize the risks of the use of AI in design teaching context. Therefore, the study encourages further exploration into the potential and challenges of AI in the educational context.

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