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Higher education in the AI age

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Higher Education in the AI Age

TREO Talk Paper

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Abstract

A perfect storm is hitting higher education. Decrease funding from traditional funding sources such as State Governments and transformative changes caused by artificial intelligence (AI) will revolutionize higher education (Siau 2018). Higher education needs to change and evolve quickly and continuously to prepare students for the upheavals in the job market caused by AI, machine learning, and automation. Further, continuous organizational and curriculum changes will be necessary for a higher education institution to stay relevant and to stay afloat.

This qualitative research looks at higher education in the AI age. Stakeholders (i.e., administrators, faculty, students, industry recruiters) in higher education were interviewed. Data collection centered on a public university in the Midwest of the U.S. The study consists of two parts: questionnaire and interview. The questionnaire aims to collect demographic data from each participant as well as measuring the attitude of each participant regarding technology. A semi-structured interview approach was conducted to identify the pedagogical impact of AI on higher education. The interview focuses on the following dimensions: (i) understanding of AI; (ii) expectations of AI capabilities; (iii) personal view and concerns on job replacement due to AI; (iv) impact of AI on higher education; (v) expectation of changes and responses from higher education facing AI challenges; and (vi) AI impact on the future of humanity and society.

The main findings of our study are: (i) curriculum changes are necessary for higher education facing the job replacement threat posed by AI. Teaching focuses need to move from conceptual-based to more technological-based knowledge; (ii) AI and advanced technologies should be integrated into the curricula of all departments and not only those in the STEM fields; (iii) technical abilities will become essential for students in the future job market. Higher education needs to focus more on raising the technical capability for the students; (iv) gaps between the focuses of higher education and the needs of the market should not be neglected. The focuses of higher education need to be updated to better address what the industry and society are looking for; (v) higher education needs to prepare their students to accept AI and learn to use AI as a tool instead of avoiding AI; (vi) higher education has the responsibility of alerting students on the importance of AI, and the possible positive and negative impact of AI. Higher education needs to help students to become open-minded to adapt to the fast-paced development in technology.

We are witnessing revolutions and evolutions in many industries that are caused by artificial intelligence and machine learning (Siau and Wang 2018; Wang and Siau, 2019). Higher education is no exception. Doing business as usual is not sustainable. This research, as a pioneering study in this area, provides good insights and viewpoints on higher education in the AI age. A major part of the research is already completed and on-going research will increase the sample size and enhance the generalizability of the results.

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