AI for Social Good Education at Hispanic Serving Institutions

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Introduction

Advances in new technologies, including artificial intelligence (AI), have fueled the Fourth Industrial Revolution affecting the way people live, work, and relate to one another. As part of its 2030 Agenda for Sustainable Development, the United Nations in 2015, set up the 17 Sustainable Development Goals (SDGs) (e.g., reduce inequality, provide affordable and clean energy, improve health and education) which were a call for action by countries in a global partnership. These goals align with the mission of the California State Universities (CSUs), with 21 of 23 campuses being Hispanic Serving Institutions (HSIs). Faculty and researchers from the CSU system have been exploring how AI can be used for social good by addressing societal challenges thereby improving people's lives. This raises two questions for educators: 1) How can undergraduate students from diverse majors learn AI so they are equipped with the necessary skills for the future workforce and become tomorrow's model citizens and leaders? 2) How can student engagement and learning in AI be increased to reduce the equity gap in AI education?

Sponsored by National Science Foundation (NSF) Improving Undergraduate STEM Education (IUSE) and Hispanic Serving Institutions (HSI) programs, this project aims to broaden AI education by developing and studying the efficacy of innovative learning practices and resources for AI education for social good. We have developed three AI learning modules for students to: 1) identify social issues that align with the SDGs in their community (e.g., poverty, hunger, quality education); 2) learn AI through hands-on labs and business applications; and 3) create AI-powered solutions in teams to address social issues they have identified. Student teams are expected to situate AI learning in their communities and contribute to their communities. Students then use the modules to engage in an interdisciplinary approach, facilitating AI learning for social good in informational sciences and technology, geography, and computer science at three CSU HSIs (San Jose State University, Cal Poly Pomona and CSU San Bernardino). Finally, we evaluate the efficacy and impact of the proposed AI teaching methods and activities in terms of learning outcomes, student experience, student engagement, and equity.

Implementation and Preliminary Findings

The project has been implemented among 514 undergraduate students in 13 classes on 3 campuses in Fall 2022 and Spring 2023 among three HSIs in three undergraduate concentrations: management information systems, geography, and computer science. Initial findings from focus group studies reveal three themes: 1) interest and curiosity in AI technology; 2) appreciation for project-based learning assessments; 3) community inside and outside the classroom. Students showed an interest in the potential application and development of AI technology over the course of the semester. They reported to have developed a clearer understanding of the uses of AI, the impact that AI has on people's lives, the potential AI holds to improve people's lives, including for communities of Color, and many more students are interested in integrating AI into their future careers or open to the possibility.

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