

Developing a Data Analytics Practicum Course

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Abstract

Data analytics is a rapidly growing field that plays a crucial role in extracting valuable insights from large volumes of data. A data analytics practicum course provides students with hands-on experience in applying data analytics techniques and tools to real-world scenarios. This practicum is intended to serve as a bridge between the student's academic environment and the professional application of their skills in an employment and internship setting. This study examined the design of a data analytics practicum course. The main objectives included (1) the identification of topics and skills employers look for in new hires in data analytics-related internships and entry-level positions, (2) the development and implementation of a Data Analytics practicum course and (3) reflection on the first-time offering of the course and suggested improvements for the next iteration. As part of this study, industry and organization survey responses drove the design of the course and development of key student learning gains for five learning modules throughout the semester. Faculty within the departments of information technology (IT), mathematics, and statistics collaborated in the construction, development, and implementation of team-teaching instructional practices of the Data Analytics Practicum in Spring 2023. This study applies an interdisciplinary approach to data analytics practicum development and instruction.

Keywords: Data analytics, practicum, experiential learning, pedagogy, curriculum development, interdisciplinary

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