Leveraging Data Science and Social-Impact Analysis to Broaden Participation in Introductory Computer Science Courses

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Abstract: Recent trends – such as rising demand for computing courses, the emergence of Data Science as a critical skill, attention to the lack of diversity in computing workforces, and growing concerns about the social impacts of algorithmic decision-making systems – call on educators to revisit how we teach introductory computing and informatics courses. The speaker is three years into an experiment with redesigning the introductory computing course to combine data science, basic data structures, and social impacts into an introductory course meant for students across the university. The course has proven successful, attracting a diverse student population across each of gender, race, and academic interests. The talk will describe the course design, its research-based foundations, and lessons learned about addressing these trends through revitalized introductory courses.

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