

Title: Undergraduate Data Science Education in iSchools: Optics and Politics

Organizers

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Abstract

During our first special session for interaction and engagement (SIE) at last year's iConference at the University of Maryland, we learned of some major challenges iSchools confront in creating data science programs. Some common themes that emerged related to curriculum development and managing faculty resources. In addition, we have created email lists for future communications among interested iSchool faculty and administrators. To further enhance our understanding of the topic, engage wider audiences, and leverage more extensive community development efforts, we are hosting a panel session at ASIS&T 2019, in Melbourne, Australia, about the future of data science education in iSchools.

In the proposed SIE, participants will provide updates on topics from last year's iConference with additional information derived from the ASIS&T 2019 Annual Meeting. We will then offer an updated model to facilitate further discussion built around issues of (1) faculty resources, (2) curriculum development, and (3) political barriers in creating data science programs.

Purpose and Intended Audience

It is well-known that the demand for data scientists are high but that supply does not meet demand (Columbus, 2017; IBM, 2017). However, due to acute needs, this may be changing. A Google Trend search, as in Figure 1 (between 2014 and 2019), shows that "data science" is more highly searched on Google than "artificial intelligence," "information science," and "big data." While many schools are willing to incorporate some kind of data science education in their curriculum, these schools do experience many challenges in the process.

The purpose of this session is to develop a community of scholars and practitioners who are interested in data science educations in iSchools in order to share best practices and to create a virtual support group. Based on our experience at the iConference 2019 SIE session, we found that developing curricula and models for managing faculty resources (full-time teaching, buy-out, or specialized faculty) are some initial, common challenges. In addition, challenges in the process of developing data science programs differ based on the institutional differences. We have three goals in sustaining this movement (Hagen et al. 2019):

- First, to create a community of experts in data science education from various Library and Information Science schools.
- Second, to discuss curricular challenges and best practices for data science education, particularly from the perspective of information science but also related fields such as computational linguistics, natural language processing, and machine learning.
- Third, to develop a framework for successful data science education models within each program’s unique institutional structure.

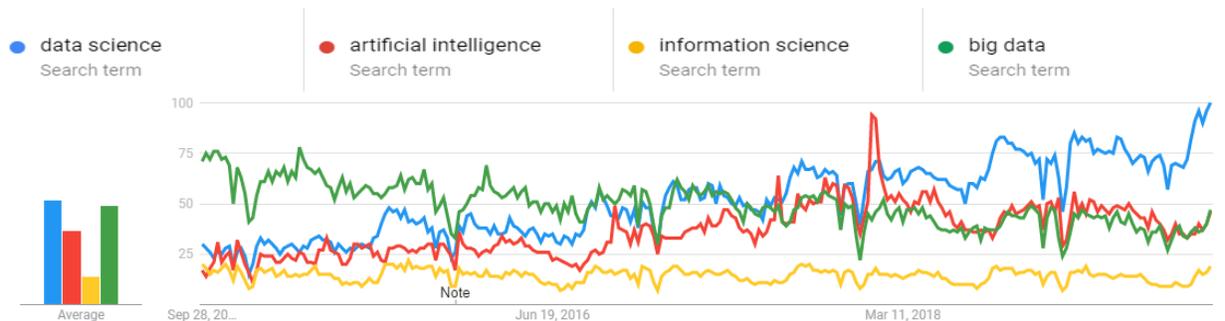


Figure 1. Google Trend Search Result

We expect participation from faculty (and students) at schools currently (or planning to) have undergraduate data science programs. In addition, industry practitioners can participate to discuss curricula and skills that need to be included in data science programs. Presenters will discuss the outcomes from their data science education (student learning outcomes and job placements) to share ideas on matching jobs with our data science education.

The ongoing goal of this session is to create a community of data science education in iSchools. Considering the rapid advancements in technologies, and the inherent interdisciplinary nature of iSchools, we are well-positioned to lead the data science education in many higher education institutions. The question is “how” to provide the needed education using limited resources. We would like to establish a community to share ideas, best practices, and resources through this SIE.

Proposed Format:

The first half of the session will be composed of presentations. Loni Hagen will present a summary of the two previous sessions (iConference 2019 and ASIS&T 2019). Then Muhammad Abdul-Mageed will present efforts for informatics training and programming vis-à-vis other data science graduate training in computer science, statistics, and linguistics in the University of British Columbia. Then presenters from two different schools (Dominican University and University of South Florida) will present outcomes of the data science education and job placement as well as ongoing challenges.

For the second half, participants and audience will form small groups to discuss a topic among the following (Hagen et al., 2019) or their own choice:

- Gaps in education and opportunities across “information professions” – what’s missing and why?

- Strategies for working across campus with other programs involved with data science.
- What are the available models of recruiting faculty to teach data science?
- Which data science courses are essential for information professionals?
- How can data science programs cope with incoming student body (strength and interests of students) in designing curriculum?

Prior to the conference, we will send invitation emails and social media distribution of the SIE proposal to the 2019 SIE session participants. We will use **#iconf20_datascience** for all the social media communication.

Duration

90 min event.

Attendance

We expect to draw between 15 and 25 participants. Maximum 30.

Special Requirements

A room with presentation equipment. We prefer to have participants seated at smaller round tables to facilitate small group discussion.

References

Columbus, L. (2017, May 13). IBM Predicts Demand For Data Scientists Will Soar 28% By 2020. Retrieved

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