

A Proposal for the Future of Data Science at SMU

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Introduction:

In the fall semester, 2016, Provost Currall assembled a Task Force¹ to assess the potential role of Data Science at the University. The Task Force met on November 18, 2016, and established the following objectives:

1. Establish a working definition for 'Data Science'.
2. Inventory relevant SMU degree programs.
3. Inventory SMU centers/institutes involved in Big Data, Data Science, and data analytics.
4. Collect information on successful programs at other universities.
5. Advance recommendations for the future of Data Science at SMU.

This report presents the findings of the Task Force and concludes with recommendations to ensure that SMU is well positioned and competitive in the increasingly important field of Data Science.

What is Data Science?

The analysis of huge datasets to generate insights and support decision making requires special tools that make up the emerging field of **Data Science**, including mathematics and statistics, computer programming, data management, machine learning, artificial intelligence, geo-spatial analysis, and visualization to extract and communicate meaningful information from enormous and complex data sets with an emphasis on predicting and optimizing outcomes. In this report, education and research described as business analytics or data analytics are included within the Task Force's definition of Data Science.

Data Science is an interdisciplinary field consisting of methods and systems to extract knowledge and insights from data. It encompasses statistics, machine learning, visualization, business analytics, data analytics, and scientific computing.