

Data-Intensive Studies Center (DISC)

Creating New Knowledge through Data-Intensive Research and Education

Tufts seeks to develop a university-wide, interdisciplinary center dedicated to data-intensive research and pedagogy, studying the science of data and its uses in application domains that span the breadth of the university. Such a center will build on existing strengths at Tufts and provide a structure to help realize the promise of the Tufts T10 Strategic Plan.

DISC will create a collaborative, application-driven environment that simultaneously fosters *the development of new methods for extracting meaning from data and the application of those methods to a host of domain areas relevant to Tufts*. DISC will provide a university-wide forum for identifying strategic opportunities best addressed by combining expertise in the science of data and application domains. *trm* data into insights and solutions.

DISC will provide:

- A vibrant intellectual center that will empower both research and teaching
- A centralized forum that will spur data-intensive innovation across the university
- A catalyst for new degree/certificate programs that will address the national need for data scientists
- A hub for programs that bring the benefits of data-intensive tools and techniques to the arts and humanities as well as to traditional STEM fields
- A proactive and cross-campus organization that will leverage the distinctive Tufts culture of interdisciplinary collaboration in the service of humanity

WHY DATA - AND WHY NOW?

In recent years, our collective ability to gather, store, and analyze data has increased dramatically, allowing new, data-intensive approaches to understanding humanity and the world around us in areas that range from genetics to social policy to classics. By investing in our capacity to derive meaning from data, Tufts will be well positioned to produce intellectual breakthroughs and data-literate graduates. This capability will make Tufts a key player in what is the most important transformation of the academic enterprise in our time.

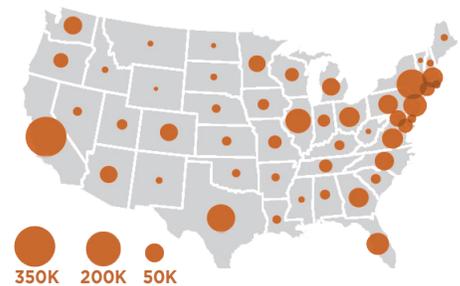
The demand for analytical talent is now.

“By the start of 2016, there were 2.3 million US job postings asking for data science and analytics skills. By late 2016, more than half (58%) of business roundtable members, an association of CEOs of leading American companies, said data science and analytics are very relevant to job openings today.”¹



However, few in the emerging workforce have the skills needed for these jobs. Universities are not keeping up with the demand. According to the Pew Research Center, “These jobs are in the economy’s fastest job-growth areas. They are higher-paying jobs, but that also require higher levels of preparation and above-average levels of social skills, analytical skills, and often both.”²

Data science and analytics postings by state (2015)³



Why Tufts?

DISC capitalizes on Tufts’ distinctive position in the institutional landscape as a research-intensive university with a strong commitment to the liberal arts. DISC will support data-driven study in both the sciences and the liberal arts with a focus on topics that will contribute to the betterment of humanity.

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Unlocking New Pathways to Knowledge through Scholarship and Education

Why a “Center?”

DISC will serve as a Tufts-wide focal point, fostering collaborations between people from existing departments, schools, and campuses who share an interest in data-intensive research and pedagogy. It will serve as a nexus to connect experts in the science of data with scholars from a wide variety of disciplines who want to use data-intensive techniques to advance their fields. It will enable cutting-edge research and state-of-the-art training so Tufts graduates will be well positioned to fill leadership roles in this increasingly important multi-disciplinary area. As a center, DISC will host various activities to nurture Tufts’ growing data science community, including forums, mini-symposia, and seminars.

DISC will foster a vibrant and sustainable culture of data literacy across the university, building on existing strengths in the science of data and data-intensive scholarship in areas such as computational biology, cybersecurity, the digital humanities, environmental studies, and health informatics.

Funding Opportunities

DISC will provide an organizational structure that will allow faculty to secure external funding for large-scale, data-intensive, interdisciplinary projects.

- Degree programs hosted in the center will help raise revenue to support center operations.
- DISC will inspire alumni and other potential donors who want to support data-intensive studies at Tufts.

What does DISC need?

A director. Data Science is implicitly interdisciplinary, bringing together scholars and researchers from diverse disciplines to collaborate with computer scientists, mathematicians, statisticians, machine learning experts and others. Cutting-edge statistical, data-scientific and computational-scientific theories and approaches are required to support this model and because it will be a matrix connecting schools and partner institutions, the Center will require a director who can work across these fields, encourage collaboration and develop synergies. The director will report to the Provost’s Office.

Physical space. DISC requires dedicated space on one or more Tufts campuses to bring data-intensive scholars together to share challenges and opportunities and to help surface unexpected synergies. Such a space could also house collaborative programs and pedagogical activities to help produce data-literate graduates.

Financial support. To incubate this university-wide initiative, DISC needs financial resources to provide pilot grants for faculty collaborations, postdoctoral and graduate student fellowships, funds for summer research projects for undergraduates, and new faculty lines to augment existing expertise in strategic areas.

1. <http://www.pwc.com/us/en/publications/assets/investing-in-america-s-dsa-talent-bhef-and-pwc.pdf>

2. Pew Research Center, (October 2016)

3. BHEF Member Preview Feb. 2017

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IMPLEMENTATION TIMELINE

Phase 1	Phase 2	Phase 3	Final Phase
Spring 2017 Host campus engagement events Form hiring, educational programming and service infrastructure committees Begin director search Develop fundraising plan	Fall 2017 High-profile symposia to showcase each candidate Establish core faculty Establish core curriculum Establish key services components Select space(s)	Spring 2018 Hire director and initial staff Hire additional teaching and service staff Appoint External Advisory Board Announce first pilot grant contest	Fall 2018 Launch DISC Academic Showcase Begin educational programs Services Features Operational