

DSI Mission

- To achieve recognized excellence in research and education in the interdisciplinary field of data science.
- **Competitive Advantage:** An institute that crosses disciplines, departments, schools and colleges to leverage the combined understanding of multiple disciplines to meet the challenges of big data.

www.dsi.virginia.edu

Data Science Institute

Recent Activities

- Education
- Faculty Excellence & Recruiting
- Research
- Industrial Relationships

M.S. in Data Science

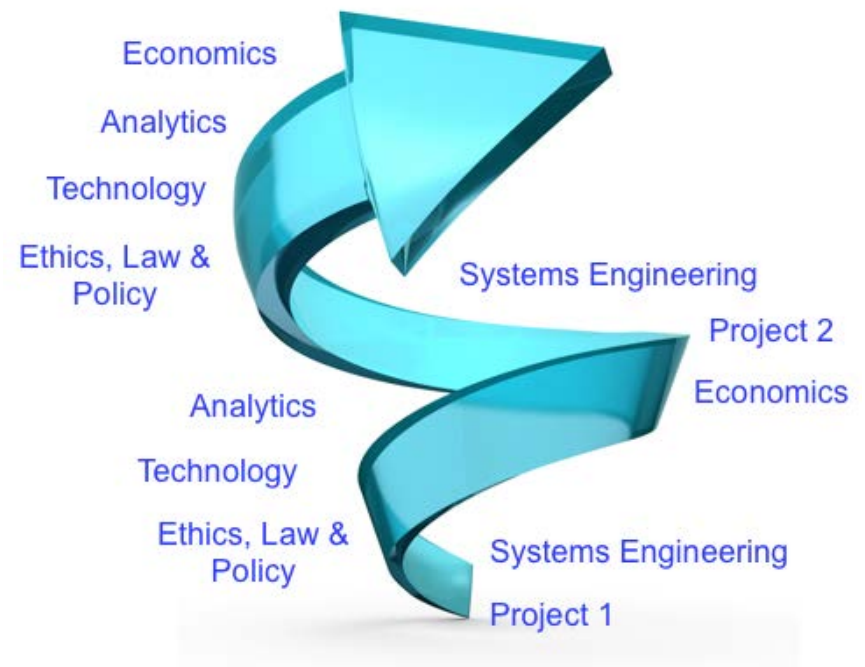
- Our M.S. program will prepare a new generation of data scientists to address the broadly identified, interdisciplinary challenges of big data
- Through **integrated data exercises** in our core courses our students will gain knowledge of data science fundamentals & applications
- Courses in the **practice, ethics, law & policy** of data science will provide the foundations for a career
- In the **capstone experience** students work on team projects that reinforce fundamental principles and the broader uses and impacts of data science

M.S. in Data Science Status

- M.S. in Data Science **unanimously approved** by the Faculty Senate on Dec 4, 2013
- **88 applicants** as of Jan 15, 2014
 - **13% VA residents**, with others from U Chicago, Penn State, Rochester, Illinois, VA Tech, Washington, Tufts, Maryland, Michigan, Wisconsin, Alabama
 - 78% international
 - Average GRE Quantitative = 166.6 (**95th percentile**), Average GRE Verbal = 152.0 (53rd percentile)
 - Average GPA 3.4
 - 15% of applicants are current UVA students or alums
 - Undergraduate majors include Economics, Math, Statistics, Computer Science, Biology, and Engineering
- Developed a **revenue model** to sustain the program
- Developed the M.S. proposal for SCHEV

Other Educational Programs

- Tailored **minor** in data science
 - 4 Core courses
 - 2 Major directed courses
- **Executive Data Science program**
 - **Project-based coaching**
 - Team exercises
 - Spiral learning framework
- Competition: U.C. Berkeley, Harvard, Duke



Faculty Excellence & Recruiting

- Faculty searches
 - 12 in CLAS
 - 3 in SEAS
- CLAS priority hires
 - Karen Kafadar, Department Chair in Statistics
 - Denis Nekipelov, Econometrics of digitization/IT
- Symposia
 - New Machine Learning Approaches to Modeling Dynamical Systems
 - Big Data, Advanced Analytics, and Driving Better Decision-making at Procter & Gamble
 - Topological and Bayesian Methods in Data Science
 - Mechanism Design and Economic Inference

Research Proposals

- Proposals
 - NIH: Centers of Excellence for Big Data Computing in the Biomedical Sciences (U54)
 - NIH: Predictive monitoring for sepsis in surgical intensive care (RO1)
 - Naval Air Warfare Center Aircraft Division (NAWCAD) with ARI
 - NSF: Materials Genome in progress
 - 3 More NIH proposals in progress
- Jefferson Trust
 - 12 Preliminary interdisciplinary proposals
- Jeffress Trust
 - Selected 4 proposals for submission

Research Infrastructure Support

- New Centers
 - Center for Data Ethics, Law and Policy
 - Center for Automata Computing
 - Center for Motion Capture
 - Center for Complex Systems Modeling
- Computational Infrastructure
 - HPC with 5k cores
 - Private cloud for identified data

Industrial Relations

- Capital One
 - Support for M.S. program through data provisioning and guest lectures
 - Possible internships
- Mitre
 - Support for the private cloud initiative
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 - Possible internships
 - Co-development of elements of the private cloud
- IBM
 - InfoSphere Streams in clinical research
 - Opportunities for joint research at the Almaden center

Industrial Relations

- Facebook
 - Possible internships
- Amazon
 - Class support
 - Possible use of instructional materials
- Verisk
 - Data exchange and research collaborations

Industrial Relations

- Hamilton Beach
 - Student projects
- Proctor and Gamble
 - Speaker exchange
- Two Sigma Investments
 - Guest lectures & support for the minor program
- Charlottesville Data Science Meet-up – 120 attendees