

M.S. in Analytics

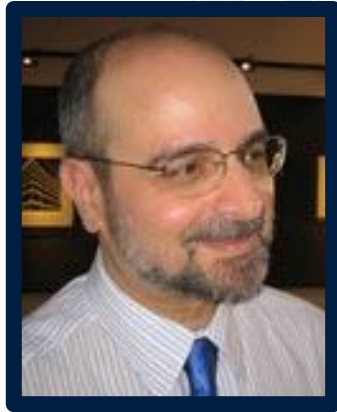
Concentration in Data Science

Georgetown University
The Graduate School of Arts & Sciences
April 12, 2018

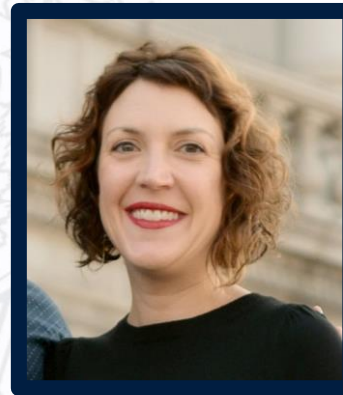


GEORGETOWN UNIVERSITY

Presenters



Todd K. Leen, PhD
Professor and
Program Director



Heather Connor
Program Coordinator

Student Panelists: Mike Chon
Kendra Gedney

What is Data Science

Data Science is rapidly growing interdisciplinary field that combines **computer science**, **statistics**, and **mathematical modeling** to obtain insights, knowledge, and predictive capability about processes from data.

What is Data Science

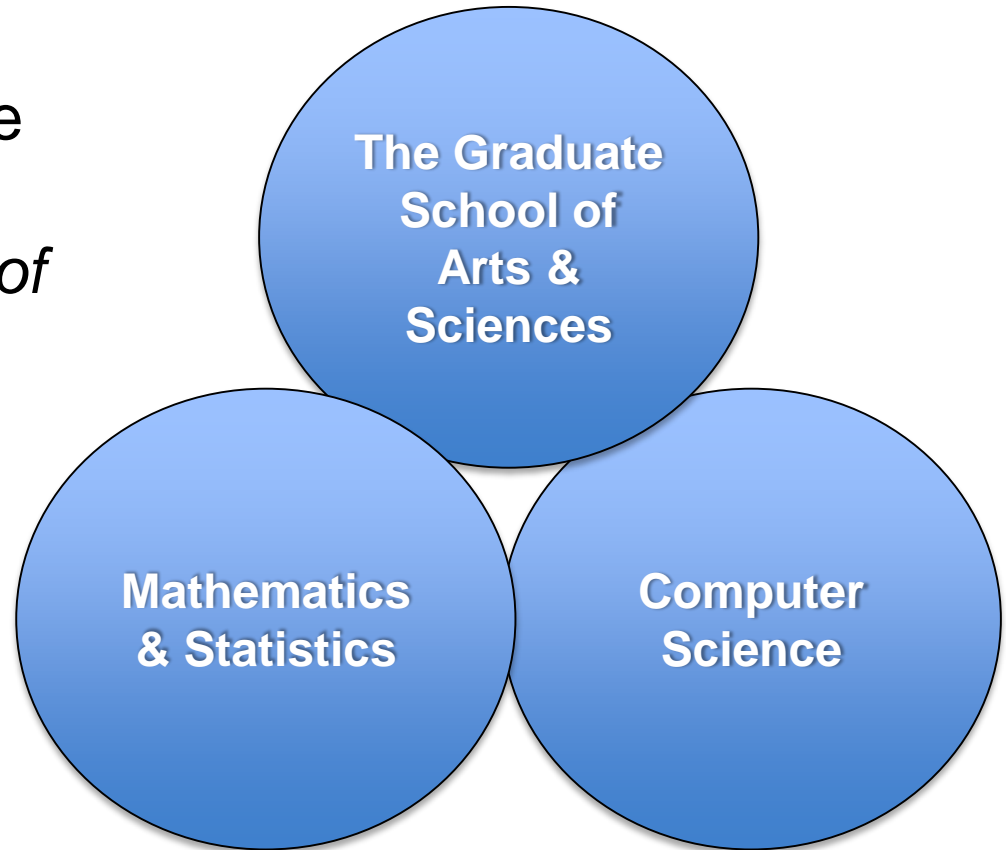
There is enormous need for talent in data science

There is huge demand for talent to supply the extraordinary growth of data analytics in business and industry. A recent Forbes web posting (May 2017) reports that annual demand for data scientists (including data developers and engineers) will reach 700,000 by 2020.

SOURCE: McKinsey Global Institute analysis

Georgetown MS Analytics

M.S. in Analytics is an interdisciplinary degree program offered by *The Graduate School of Arts & Sciences*



Curriculum

30 Credit Program

- Online, 0-credit, FREE, prep course on advanced Python, R, and command line programming in the summer prior to matriculation (Georgetown Summer Session II: Mid-July to Mid-August)
- Five-course (15-credits) core provides strong working knowledge of computational and statistical methods central to data science.
- Five-course (15 credits) of electives from the Analytics program and departments throughout the graduate school.
- Courses use real-life datasets (projects and homework assignments)

*As the data science landscape continues to change,
so will our core and elective offerings.*

Curriculum

Required Core Courses		
	-----	Summer: Advanced Programming Topics
F1	{	ANLY-501 Introduction to Data Analytics
		ANLY-511 Probabilistic Modeling and Statistical Computing
S1	{	ANLY-502 Massive Data Fundamentals
		ANLY-512 Statistical Learning for Analytics
F2		ANLY-503 Scientific and Analytical Visualization

Curriculum

Electives Offered by Analytics

ANLY-520	Effective Presentation for Technology & Science
ANLY-550	Structures and Algorithms for Analytics
ANLY-561	Optimization
ANLY-580	Natural Language Processing
ANLY-590	Deep Learning
ANLY-601	Advanced Pattern Recognition

Curriculum

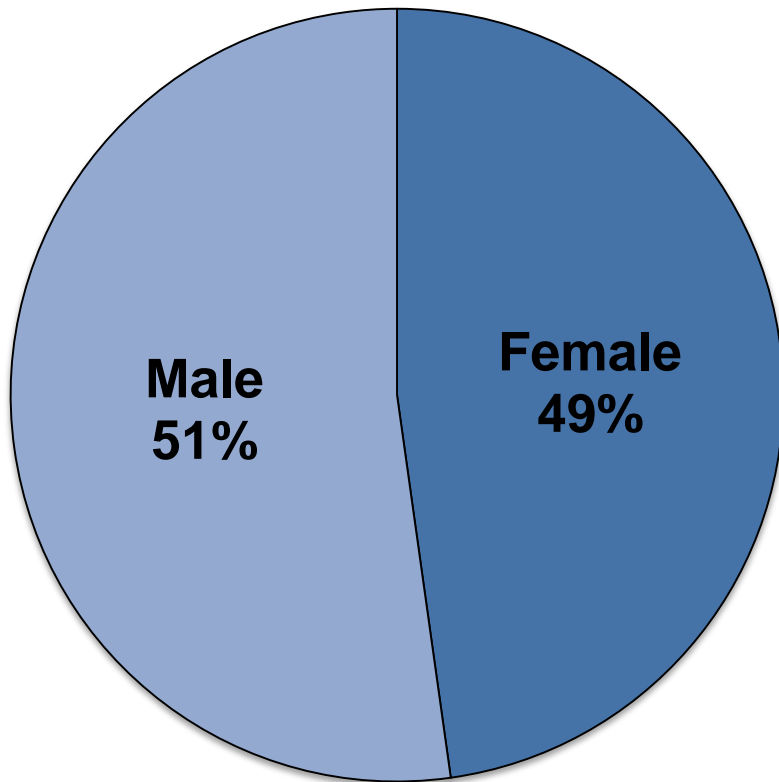
Electives from Math & Comp Sci	
COSC-544	Probabilistic Proof Systems
COSC-578	Statistical Machine Learning
COSC-579	Computer Vision
COSC-589	Web Search and Sense-Making
MATH-412	Mathematics of Climate
MATH-611	Stochastic Simulation
MATH-645	Categorical Data Analysis

and others from Math and CS

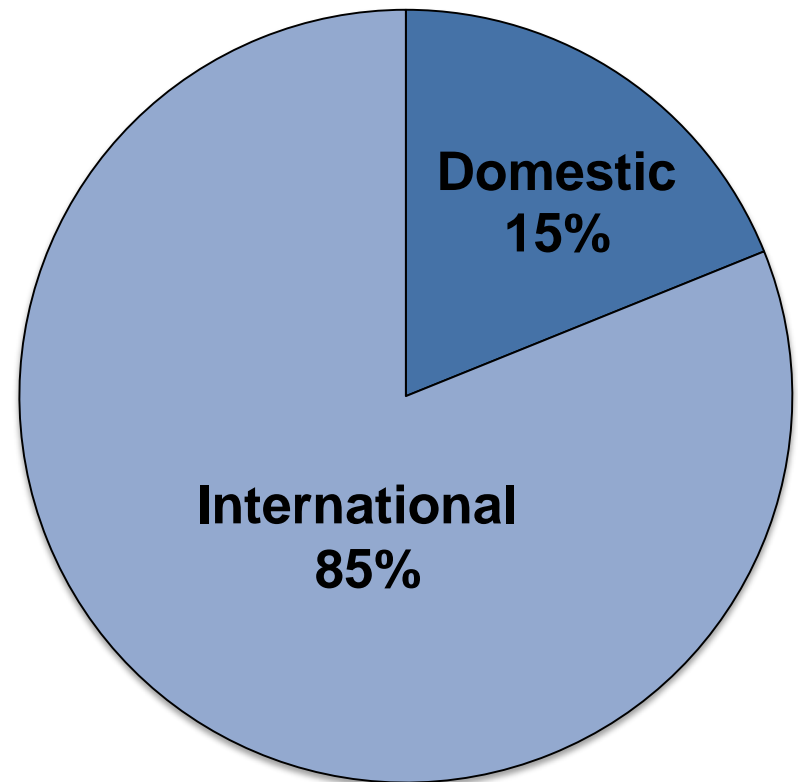
Electives are also available in Public Policy, and will be in Business and Biostatistics

Applicant Demographics (F 2017)

Gender



Nationality



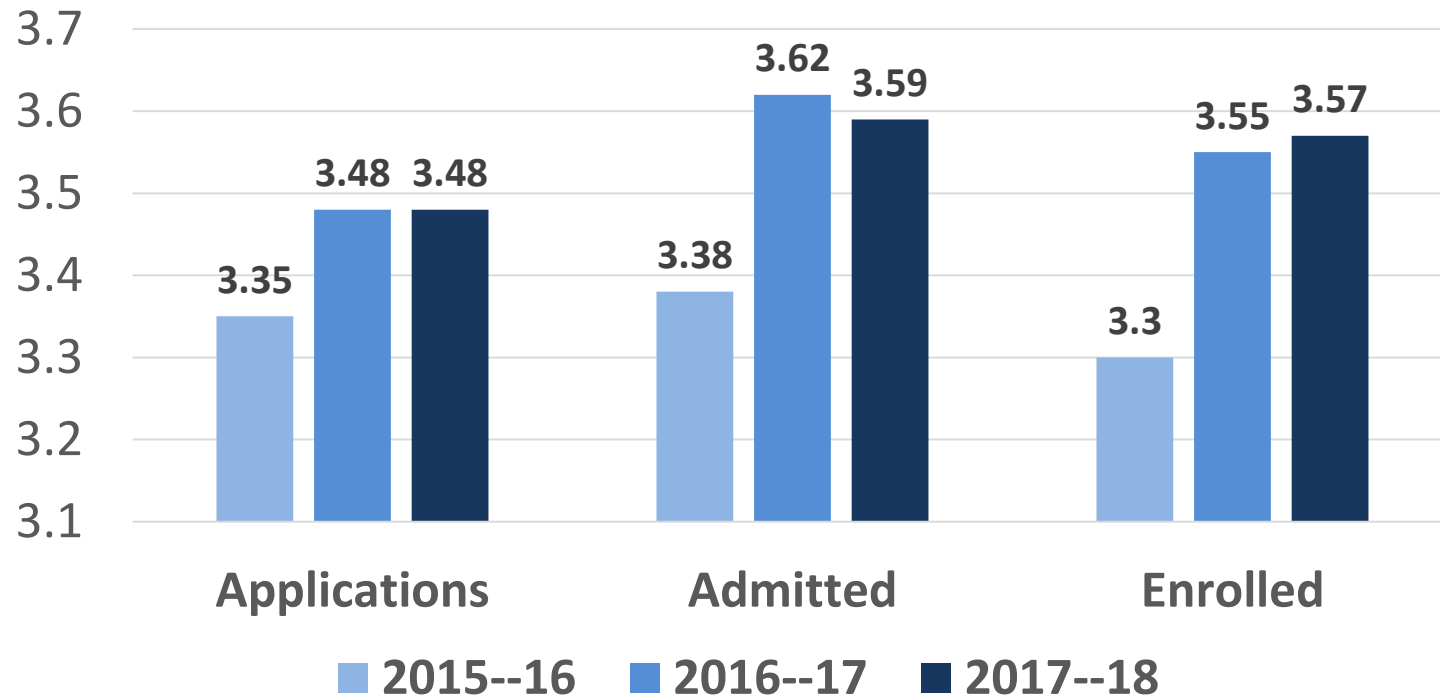
Applicant Demographics

Most Frequent Applicant Undergrad Degrees:

Math, Statistics, Computer and Information Science, Economics, Finance, and Engineering

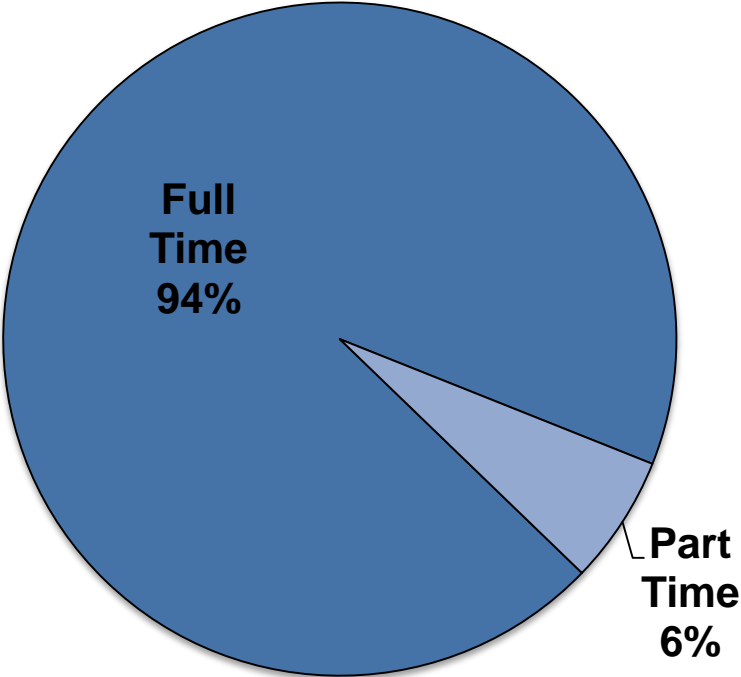
Applicant Demographics

Undergrad (mean) GPA Trends

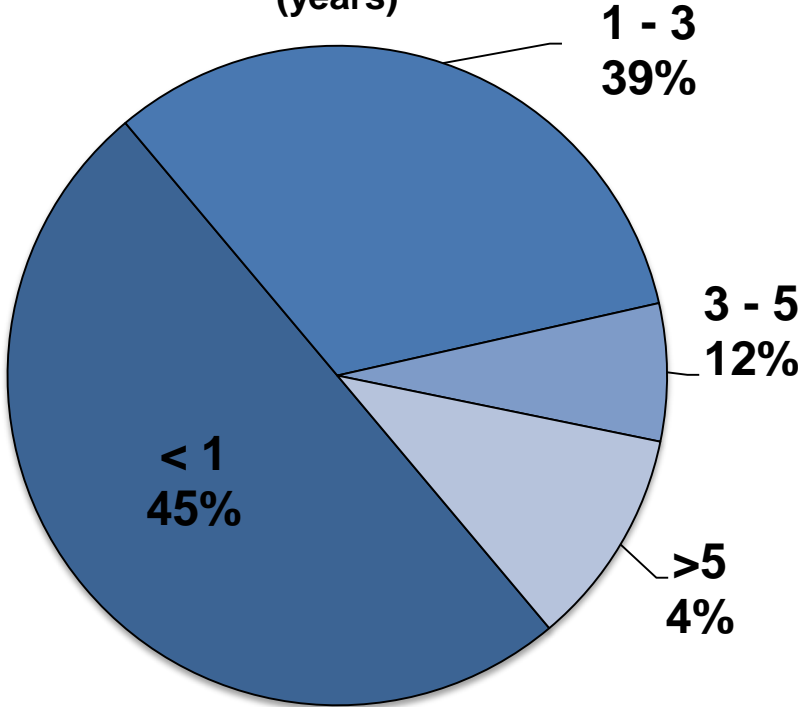


Applicant Demographics (F 2017)

Applicant Status



Work Experience (years)



Admission Process

Scholarship & Financial Aid

A limited number of merit-based scholarships are awarded to exceptional applicants and to continuing students on a case-by-case basis.

There are opportunities for assistantships (research, teaching, grading) for Analytics students based on departmental need and student skills. These opportunities become available at the beginning of each semester.

Internships, Research, and Post-Graduate Employment

- The Cawley Center offers Career Fairs for all Georgetown Students. Analytics program now hosts career mini-fairs.
- The Analytics program has placed interns at Lawrence Livermore National Laboratory (LLNL), The Peace Corps, The Urban Institute, PwC, Ancestry.com, Amazon.com and many others.
- We have alumni working at Booz Allen Hamilton, Amazon.com, US Digital Services at the White House, Capital One, American Society for Engineering Education, Deloitte, Discover Financial, and others.

Internships, Research, and Post-Graduate Employment

- Georgetown University is developing a strategic liaison with LLNL with Analytics in a prime role.
- There are paid research opportunities on campus (e.g. Public Policy, Computer Science, School of Foreign Service...). Some students work as TA's in the program.
- The Analytics program continually builds new corporate relationships to enable curriculum development, internships, and post-graduate employment.

Additional Information

Thank You for Attending!

If you have other questions that we were unable to answer during this webinar, please email

gradanalytics@georgetown.edu

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Question & Answer



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Ancillary Slides



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Competitive Program



“Where did you go rather than Georgetown MS Analytics?”
(39 respondents)

Application Deadlines

- January 15 --- Priority Scholarship Consideration
- March 15 --- Deadline for International Students
- April 1 --- Deadline for Domestic Students

Admission Process

Application Materials

- Online Application
- Non-refundable Application Fee
- Resume or CV
- Statement of Purpose
- Supplemental Data Form – summarizes academic preparation
- Official Transcripts from all prior higher-education institutions
 - *International applicants who attended institutions outside the United States **must** use a transcript evaluation service (e.g. WES)*
- Official Recommendations (3)
- GRE score
- TOEFL / IELTS score, if applicable

Admission Process

Prerequisites

- Multivariable Calculus (*3 credits*)
- Linear Algebra (*3 credits*)
- Calculus-based Statistics (*3 credits*)
- Computer Programming (*3 credits*)
 - *C++, Java, and/or Python*
- Programming Languages
 - Python and R. Some exposure to command line interface (e.g. Linux) is helpful.

Admission Process

Bonus Coursework / Experience

- Data Structures
- Analysis of Algorithms
- Data bases
- Machine Learning
- Data Mining
- Computational Statistics