M.S. in Analytics
Concentration in Data Science

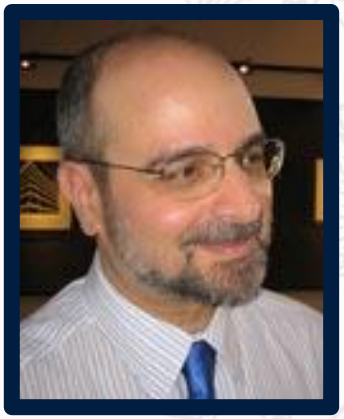
Georgetown University

The Graduate School *of* Arts & Sciences

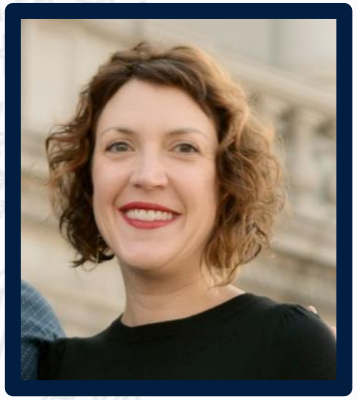
Nov. 10, 2017

GEORGETOWN UNIVERSITY

Presenters



Todd K. Leen, PhD
Professor and
Program Director



Heather Connor
Program Coordinator

Panelists: Jordan Bramble (alum)
Chang Sun, Mike Chon (students)

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

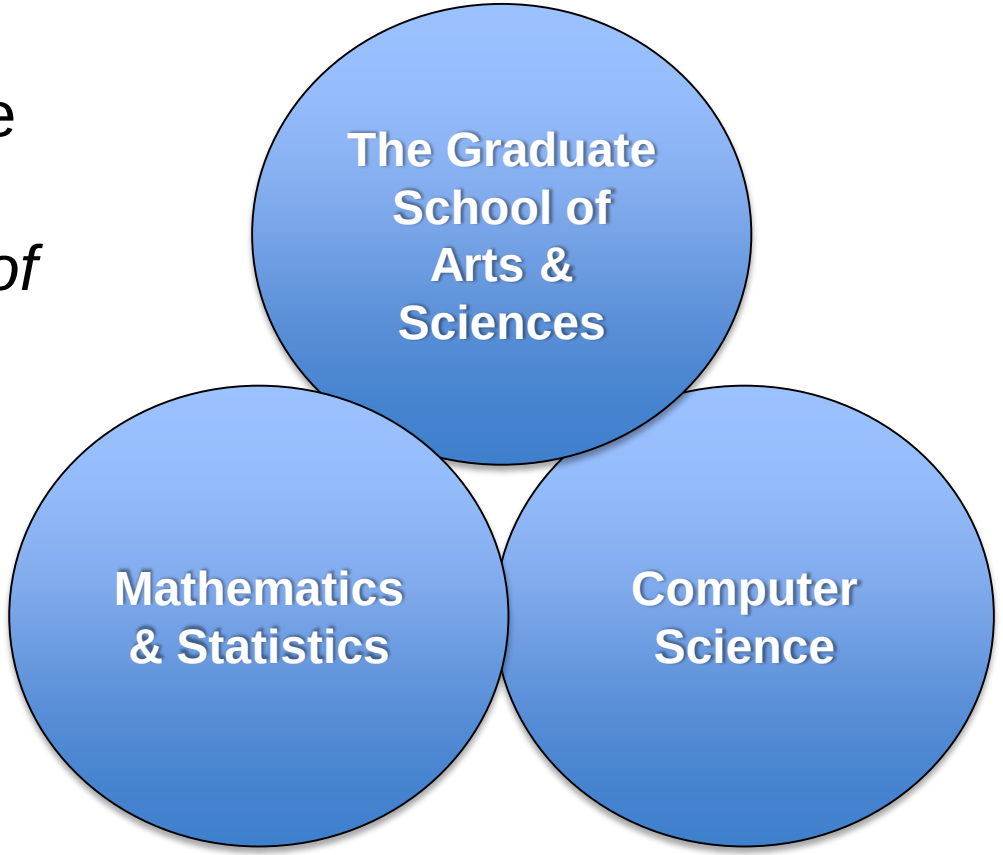
There is enormous need for talent in data science

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 or departments throughout the graduate school.

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

Curriculum

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

Curriculum

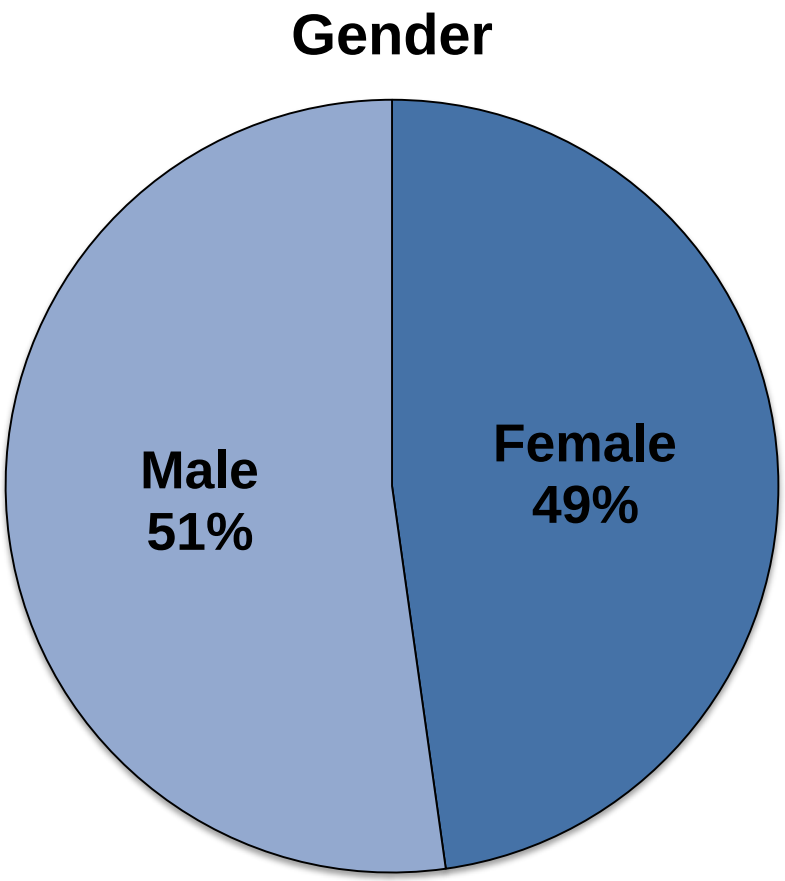
Electives Offered by Analytics	
ANLY-520	Effective Presentation for Technology & Science
ANLY-540	Technology & Policy for Data Privacy
ANLY-550	Structures and Algorithms for Analytics
ANLY-561	Optimization
ANLY-580	Natural Language Processing
ANLY-590	Deep Learning
ANLY-601	Advanced Pattern Recognition

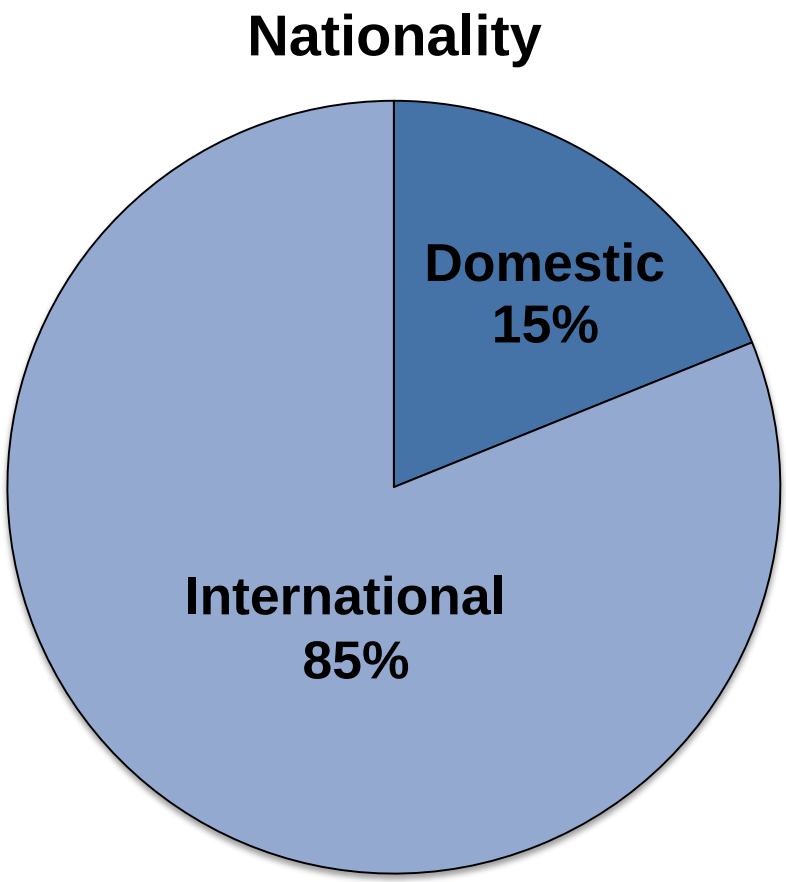
Curriculum

	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

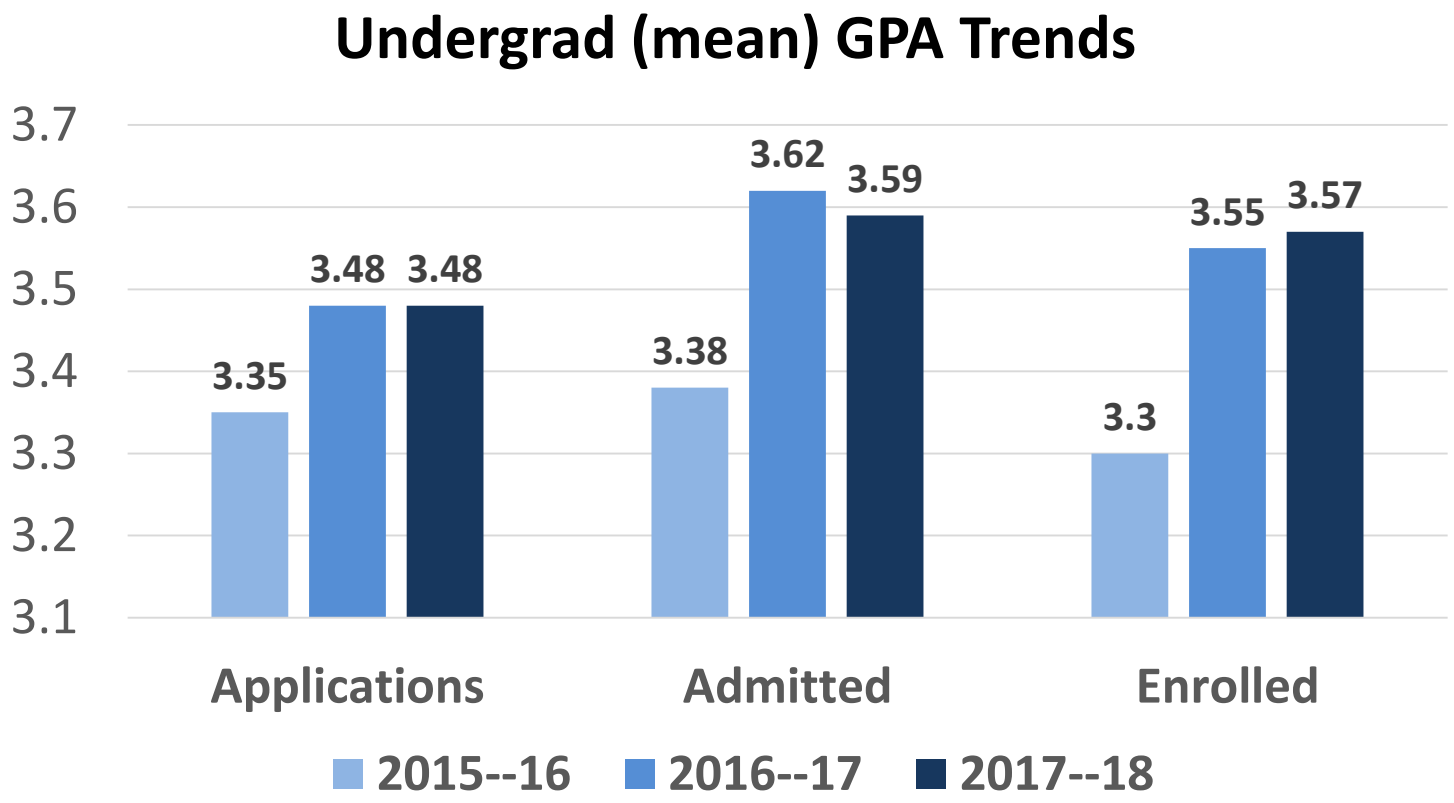
Electives will also be available in Public Policy, Business, and Biostatistics

Applicant Demographics

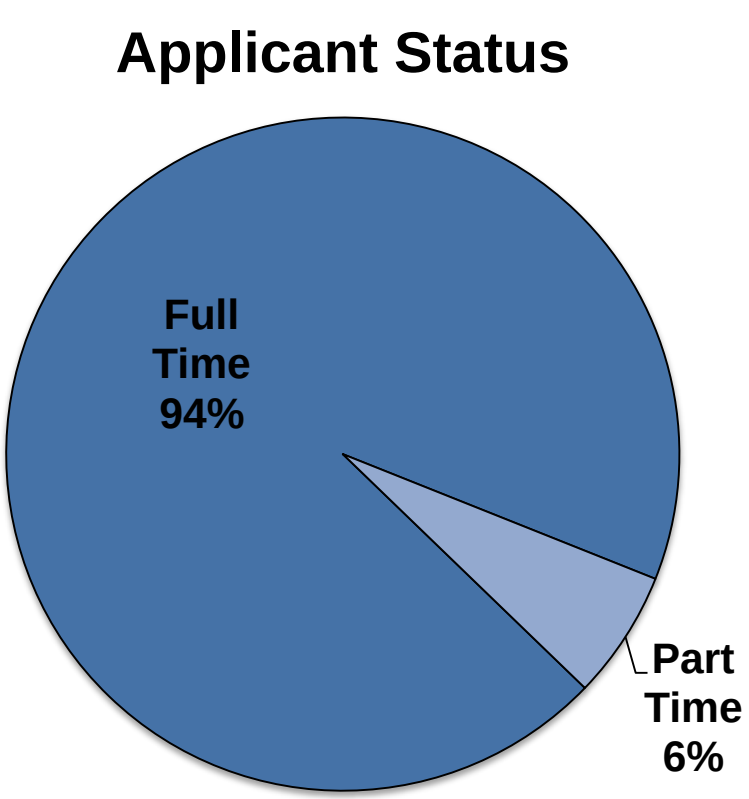


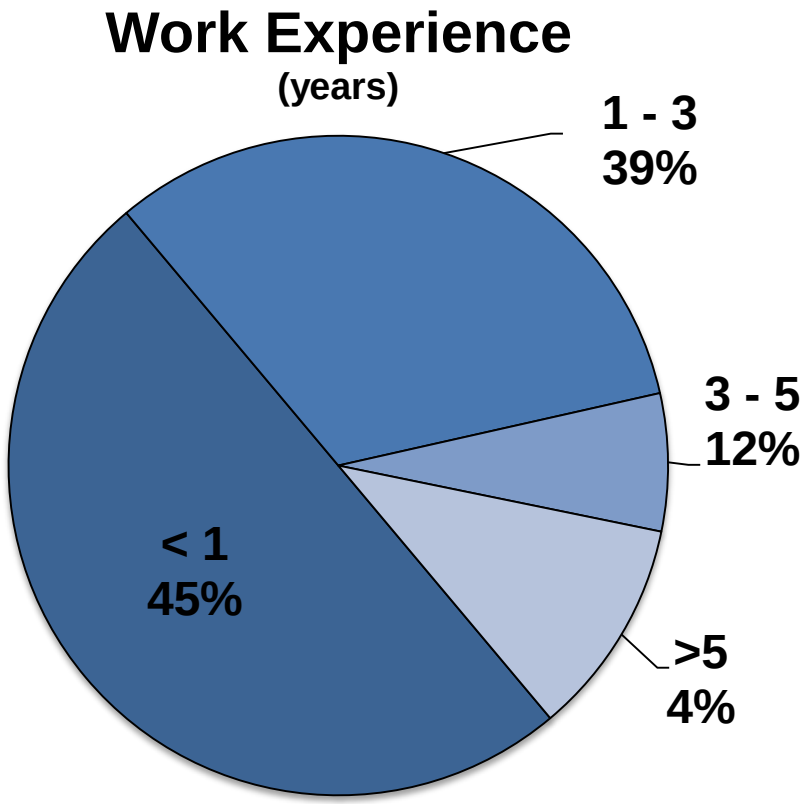


Applicant Demographics



Applicant Demographics





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
- 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

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.

Admission Process

Application Tips
How to Impress the Review Committee

- All-inclusive review of application materials
- Statement of Purpose – Why Georgetown, why Data Science?
- Letters of Recommendation
  - Education, Work
  - How did you stand out?
- Programming Experience
  - College-level coursework, Work experience, MOOCs, Certificates

Internships, Research, and Post-Graduate Employment

- The Cawley Center offers Career Fairs for all Georgetown Students
- 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).
- 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

Question & Answer

Competitive Program

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