

Library Partnerships to Support Data Analytics Engineering Programs

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Agenda



Data Analytics in the US

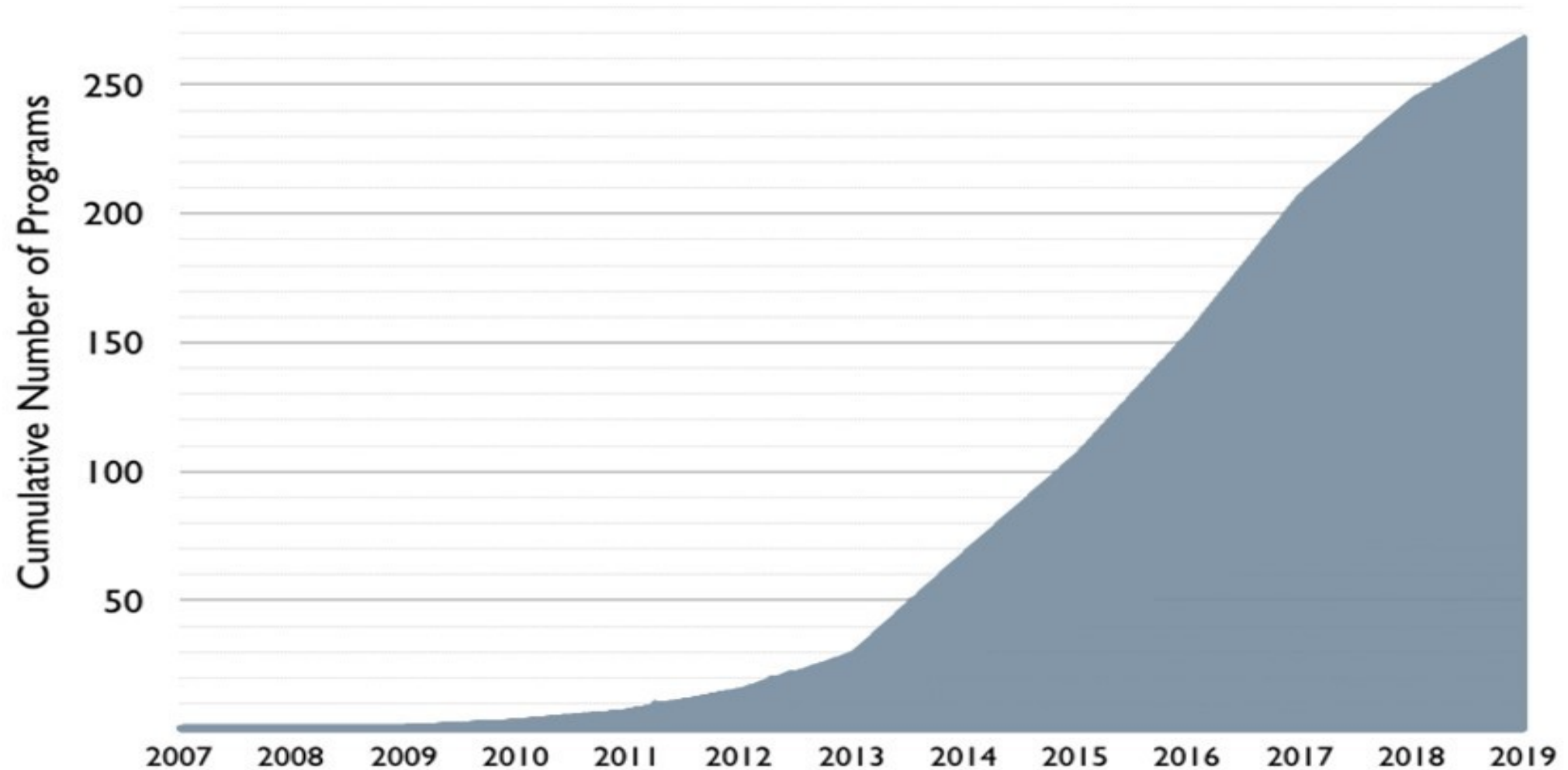


Data Analytics @ GMU










Support for Data Analytics

Growth of Analytics and Data Science Masters Degree Programs in the US

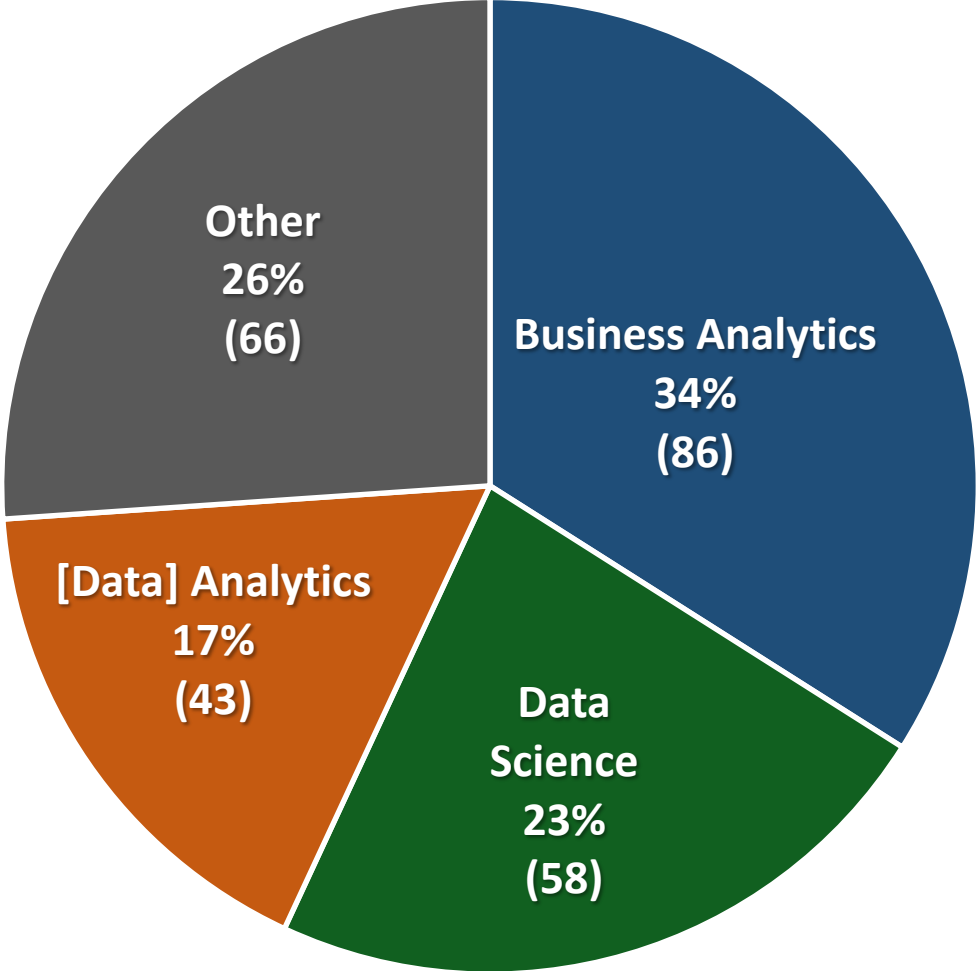


Source: M. Rapa, Institute for Advanced Analytics, 5/29/19
https://analytics.ncsu.edu/?page_id=4184

Defining Data Analytics Positions

	DSA Framework Category	Functional Role	Sample Occupations
 Analytical Rigor	 Data Scientists & Advanced Analytics	Create sophisticated analytical models used to build new datasets and derive new insights from data	Data Scientist Economist
	 Data Analysts	Leverage data analysis and modeling techniques to solve problems and glean insight across functional domains	Data Analysts Business Intelligence Analyst
	 Data Systems Developers	Design, build and maintain and organization's data and analytical infrastructure	Systems Analyst Database Administrator
	 Analytics Managers	Oversee analytical operations and communicate insights to executives	Chief Analytics Officer Marketing Analytics Manager
	 Functional Analysts	Utilize data and analytical models to inform specific functions and business decisions	Business Analyst Financial Analyst
	 Data-Driven Decision Makers	Leverage data to inform strategic and operational decisions	IT Project Manager Marketing Manager

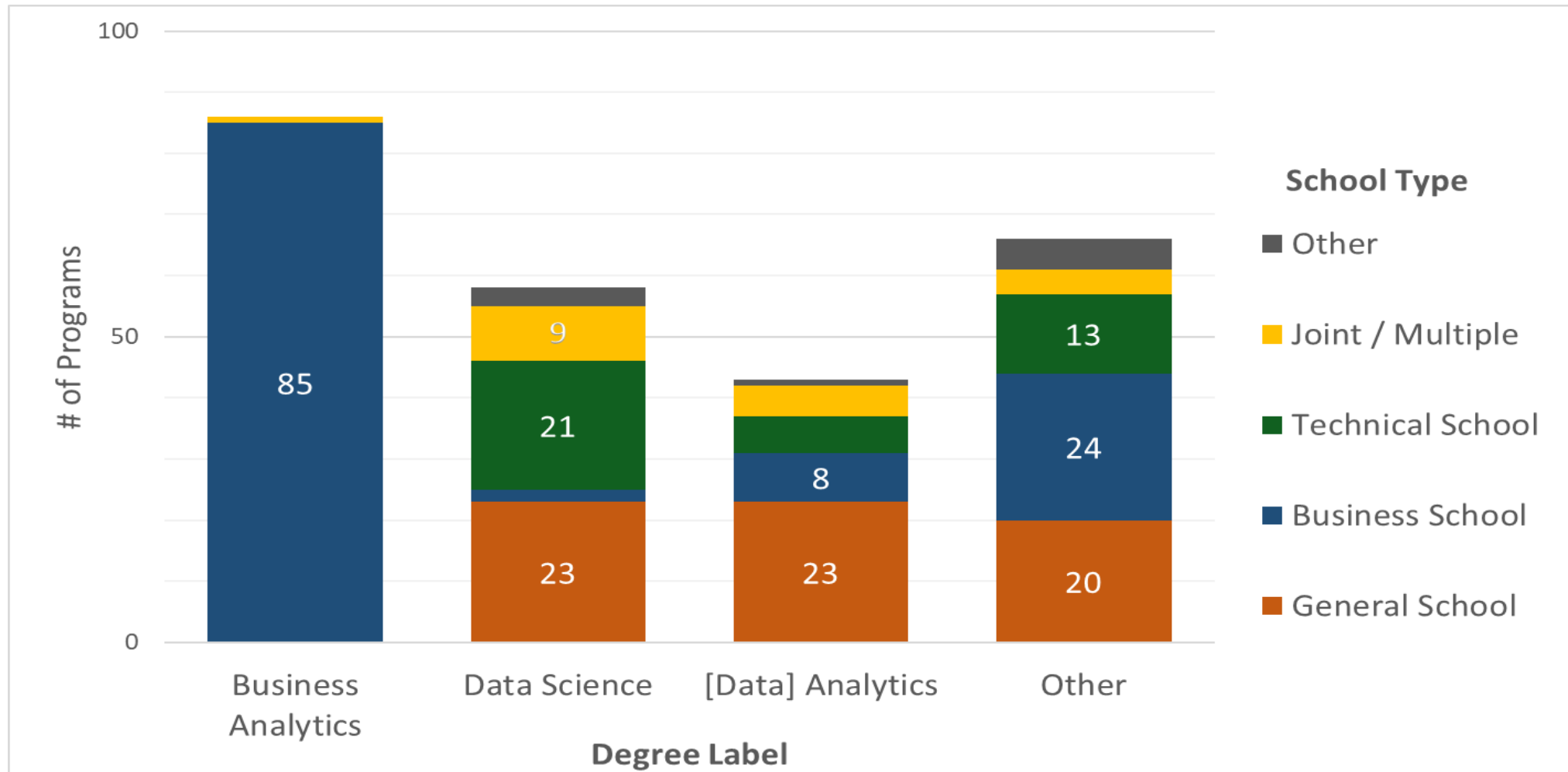
US Data Science and Analytics Degree Programs by Degree Title



253 Programs
December 2018

Source: Institute for Advanced Analytics
https://analytics.ncsu.edu/?page_id=4184

US Data Science and Analytics Degree Programs by Degree Title and School Type



Source: Institute for Advanced Analytics
https://analytics.ncsu.edu/?page_id=4184

Introduction: George Mason University



- Doctorate granting institution
- Research 1 University (2016)
- Total enrollment (2018): 37,316
- 211 degree programs

Data Analytics Engineering (DAEN) @ GMU



Graduate Program

Fall 2014 on campus
Spring 2019 online added



Fall 2014 to Fall 2018:
Enrollment increased 902 %

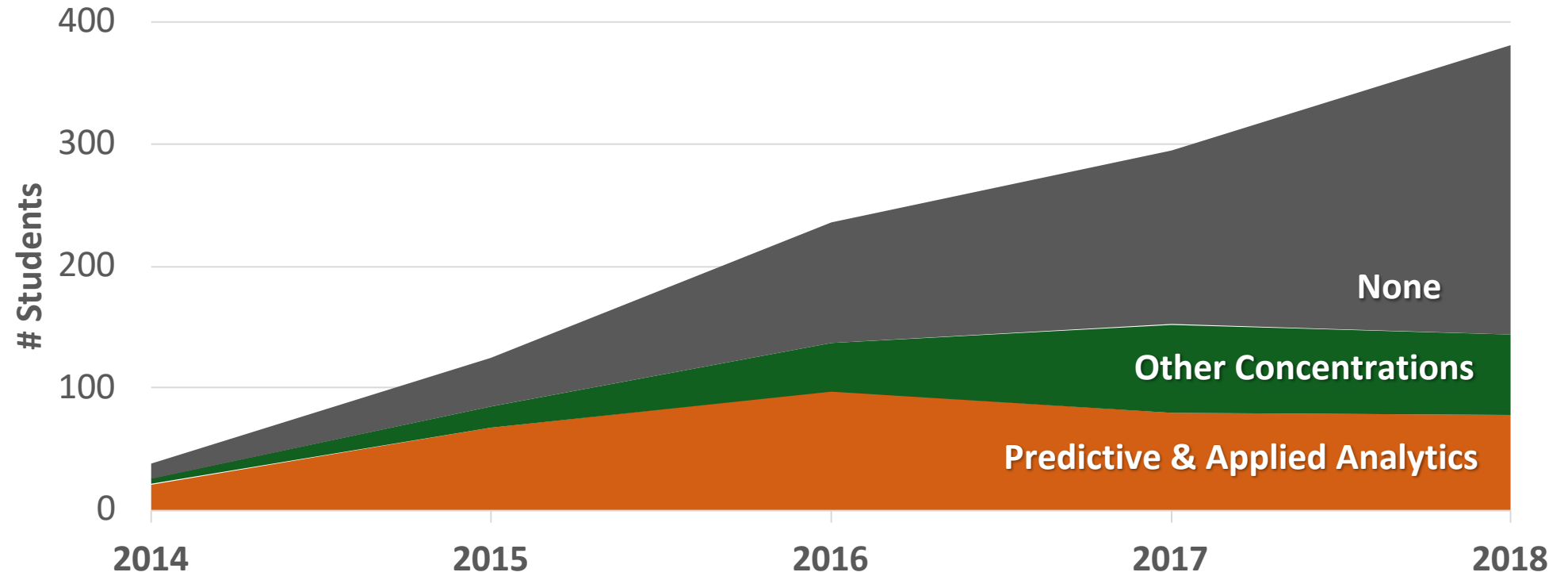


Offers 10 concentrations



Accepts students from a wide variety of
academic backgrounds

GMU DAEN Fall Enrollment by Concentration



Supporting DAEN: Partnerships

Library Internal Partnerships

- Subject Librarian – DiSC
- DiSC – Graduate Research Assistants

External Partnerships

- Library Staff – DAEN Faculty
- DAEN Faculty – Corporate Partners
- Library Staff – State Library Consortium Director (VIVA)

Supporting
DAEN:

Identify
Student Needs

Data
needs

Numeric Data
Social Media Data
Geospatial
Large Text Corpora

Issues

- Data Ethics
- Diverse Academic backgrounds
- Learning a skill set not a subject discipline

Supporting
DAEN:

Other Issues

Knowledge Gaps

- Technical skills
- Research process
- Working with messy data

Experience Gaps

- Using licensed resources
- Project definition & scoping

Supporting
DAEN:
Addressing
Needs & Issues



Meetings with
Coordinators and Faculty



Created Online Resources for
Students and Faculty



DAEN Class Instruction

Supporting DAEN:

Plans for the Future



Continue working closely with DAEN program faculty.



Offer library orientation for Foundations class.



Develop pre-capstone workshop for students.

References & Resources

- Institute for Advanced Analytics, “Graduate degree programs in analytics and data science.” Accessed Jan. 21, 2019. [Online]. Available: https://analytics.ncsu.edu/?page_id=4184.
- George Mason University Information, “All Mason Locations Map,” Accessed Jun. 6, 2019. [Online]. Available http://bit.ly/Mason_Map
- Volgenau School of Engineering, “Data Analytics Engineering, MS: Overview,” Accessed Jan. 30, 2019. [Online]. Available: <https://volgenau.gmu.edu/program/view/20563>
- W. Markow, S. Braganza, B. Taski, S.M. Miller, and D. Hughes, “The Quant Crunch: How the demand for data science skills is disrupting the job market,” Burning Glass Technologies, Boston, MA, U SA, 2018. [Online]. Available: <http://bit.ly/QuantCrunch>
- Mason Data LibGuides: https://infoguides.gmu.edu/dsc?b=t&group_id=19734
- Kaggle <https://www.kaggle.com>