

Statistical Data Science MS

Emphases:

- applied statistical methods
- facility in the software packages SAS, R and Python toward addressing data-driven decisions in government and industry
- a SAS certificate may be obtained simultaneously

Efficiently pulling *relevant* data and analyzing to gain insight.

Incorporating core statistical reasoning: variation, model estimation (learning), overfitting, prediction validity.

Effectively communicating with decision makers.

Data scientist cleans and analyzes data, derives knowledge from data to answer questions, and provides metrics to solve business problems.

Data engineer develops, tests, and maintains data pipelines and architectures that the data scientist uses for analysis.

Statistical Data Science MS

Quantitative analysts/data scientists/statisticians contribute in a broad set of industries:

- Finance (Wells Fargo, Capital One, Chase, ...)
- Insurance (Liberty Mutual, American Integrity, ...)
- Manufacturing (auto, Corning, Alcoa, ...)
- Utilities
- Startups (Pinpoint, 6sense, FortressIQ, ...), “Tech,” “Biotech”
- Academic research centers (UF, Mayo Clinic, ...)
- Government (state, federal)
- Non-profits (Urban Institute, SRI International, ...)
- Contract Research Organizations (CROs) coordinating clinical studies
- Human resources/placement companies



SDS Required Coursework

FALL	SPRING	FALL
(3) STA 5207 Appl. Regression Methods	(3) STA 5208 Linear Statistical Models	(3) STA 5856 Time Series and Forecasting Methods
(3) STA 5066 Data Management and Analysis with SAS	(3) STA 5067 Advanced Data Management and Analysis with SAS	(3) STA 5635 Applied Machine Learning
(3) Elective	(3) STA 5106 Computational Methods in statistics I	(3) STA 5939 Introduction to Statistical Consulting (Capstone project)
(2) STA 5910 Supervised Research: Professional Skills Seminar	(3) Elective	

Any course approved for department graduate students that is not required for the degree being sought may be taken for elective credit except STA5126, STA5172, STA5206, STA5207, STA5323, and STA5440.

Xiao-Li Meng, [Harvard DS Review](#)

“.... as far as data science is concerned, information and uncertainty—or equivalently, signal and noise—are merely the **two sides of the same coin: variation**.

....

Data science relies on the discriminating power provided by variations in the data to function, in contexts ranging from linear regressions to deep learning. But **data themselves do not tell us which variation is signal and which one is noise**. Indeed, what is noise for one study (e.g., population behavior) can be signal for another (e.g., for individualized treatments), and vice versa.”

Other Considerations

- Encourage SAS Certificate
- Join the American Statistical Association (ASA, www.amstat.org)
 - FSU Student Chapter
 - Join a *Section* to get tied in with your interest area
 - Note *ASA Chapters* are regional – Florida
 - ASA Communities discussion boards
 - GSTAT Accreditation
- Watch for announcements of valuable webinars:
 - ASA
 - National Institute of Statistical Sciences (NISS)
 - FSU membership in Beyond Graduate School (Sept. 24 Seminole Futures career fair)

Other Considerations

- Take courses, read, discuss!
 - Harvard Data Science Review <https://hdsr.mitpress.mit.edu/>
 - Think critically about material, ask “what if?”, create linkages between courses and applications areas that interest you.



How Can Reliability of Artificial Intelligence Be Ensured?

by Gitta Kutyniok

Published: Apr 30, 2025

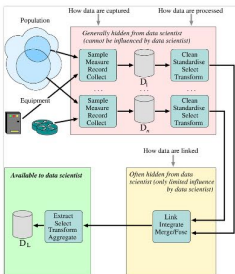


Decoding Randomized Controlled Trials: An Information Science Perspective

by Pavlos Msaouel

Published: Apr 30, 2024

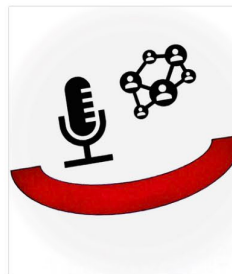
Diving Into Data
column



When Data Science Goes Wrong: How Misconceptions About Data Capture and Processing Causes Wrong Conclusions

by Peter Christen and Rainer Schnell

Published: Jan 31, 2024



Show US the Data

by Nancy Potok

Published: Apr 28, 2022



Stop Flaunting Those Curves! Time for Stats to Get Down and Dirty With the Public

by Timandra Harkness

Published: Jul 30, 2020



Why Is Data Visualization Important? What Is Important in Data Visualization?

by Antony Unwin

Published: Jan 31, 2020

Other Considerations: AI?

THE LINE BETWEEN

**TOPICS THAT
MUST BE
MASTERED
INTERNALLY**



**TOPICS
THAT
WE MAY
LOOK UP
USING AI**

