Data Science at Auburn University
Department of Mathematics and Statistics

Mathematics and Statistics

Data Science

Computer Science

Domain Knowledge

What is Data Science?

Data Science combines the scientific method, mathematics and statistics, specialized programming, advanced analytics, AI, and even storytelling to uncover and explain insights buried in data.

Why Data Science?

Researchers and businesses collect data to answer interesting questions (estimation, prediction and inference) giving rise to Data Science Problems. Data Science utilizes Quantitative skills (Math/Stat), Computational skills (Coding/Data Wrangling) and Computational Tools (R, Python).

LinkedIn reports that jobs in Data Science/Machine Learning are one of the fastest growing areas.

More than 11.5 million new jobs will be created in the data science field by 2026.
-U.S. Bureau of Statistics

The average starting base pay for a Data Scientist/Engineer is $125,439 per year.
-Glassdoor.com, September 2022

Data Science Degree Programs at Auburn University:

- Masters in Data Science and Engineering (30 credits)
- Graduate Certificate in Data Science (12 credits)
- Accelerated Bachelor's/Master's in Data Science and Engineering (BS + MS)

Questions? Contact Dr. Nedret Billor, Professor of Statistics & Director of Statistics and Data Science

✉ billone@auburn.edu or 📞 334.844.3619

Learn more online at aub.ie/cosamdse or check out the QR code!

Interested in Becoming an Industry Partner?

Capstone Projects:

- Do you have large data?
- Do you want data-driven insight into your business and technology solutions?

Data Science Core Courses:

STAT	6000	Intermediate Statistical Methods for Data Science
STAT	6600	Probability and Statistics for Data Science
STAT	6650	Statistical Learning
COMP	6120	Database Systems I
COMP	6130	Data Mining
COMP	6630	Machine Learning
STAT	7940	Capstone Project for Data Science

Capstone Project Learning Objectives

1. Identify the statistical or algorithmic approaches that will address the problem
2. Develop a methodological framework to produce a practical solution
3. Implement the new methodologies in a computationally efficient manner
4. Communicate the findings of the research effectively in both written and oral presentations

> *Our experience as the industry partner on the capstone project with students from the Masters in Data Science program was highly positive. We were impressed by not only the students' caliber, but also their dedication and hard work throughout the project. The insights and solutions developed through their data analysis showcased strong skill sets in critical thinking and problem-solving, analytical and modeling abilities, and verbal and written communications. These students are well-prepared to excel in the field of data science.*

Guy-vanie Miokankana
Corporate Vice President, Lead Data Scientist
New York Life Insurance Company

> *The Auburn Capstone student team was dynamic, engaged, and was able to deliver creative approaches to a business problem.*

Chad Foster
Chief Consulting Engineer
GE Aerospace

> *During the 2022 Fall Semester, Southern Power worked with graduate students from Auburn University's Science and Mathematics department to develop state of the art forecasts for Locational Marginal Prices in the Texas ERCOT system. The baseline forecasts developed included ARIMAX / SARIMAX statistical methods and more advanced Machine Learning methods were also explored such as PROPHET and Random Forests. The results achieved during this successful joint effort will be implemented internally within Southern Power's trading recommendation model during the first half of 2023. This was the second successful project between Auburn and Southern Power.*

Jeff Baker
Modeling and Analytics Manager
Southern Power

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Interested in Becoming an Industry Partner?

Standard Service: $15,000 per capstone project
No requirement for highly specialized data analysis or heightened level of IP protection

Features:
- Project-specific data analysis
- IP protection

Additional custom services available (fees may apply):
- Medium to large data scale
- Increased data complexity
- Custom analyses
- Heightened level of IP protection (e.g. SCIF)
- Heightened restrictions for data security

* We are unable to accept capstone proposals that will involve complex regulatory measures (e.g. ITAR, export controls).

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