Master of Science in
DATA SCIENCE
THE UNIVERSITY OF MIAMI’S MASTER OF SCIENCE IN DATA SCIENCE allows students to apply data science techniques to a variety of interests. The program has statistics and machine learning at its core, allowing students to learn practical techniques in data science, explore solutions to domain-specific problems, and experience real-world data science applications through internships.

“The sexiest job of the 21st century.”

— HARVARD BUSINESS REVIEW
UM’s MSDS program provides interdisciplinary data applications for students from any undergraduate background.

While selecting a track is not required, students may choose from the following options:

**Technical Data Science**
For students with a quantitative background who wish to expand their educational experiences and career preparations in statistics, machine learning, programming, data engineering, and database systems.

**Data Visualization**
For students who wish to study the graphical representation of the trends and patterns found in data through charts, graphs, maps, and diagrams.

**Smart Cities**
For students interested in exploring the convergence of technology, urban informatics, and design, in the shaping of responsive and resilient cities.

**Marine & Atmospheric Science**
For students who wish to apply data science training to tackle problems in the atmosphere, including ocean modeling, climate modeling, and remote sensing.

**Educational Measurement & Statistics**
For students who wish to pursue independent research, test design and development, and the analysis of large sums of quantitative data.

**Marketing**
For students who wish to pursue careers in strategic branding, predictive analytics, market research, and consumer behavior. (The Marketing track requires 31 credits)
Data scientists are in high demand. Large companies need talented individuals who can not only perform various data analysis techniques, but are also able to interpret the results by drawing on their domain knowledge. The University of Miami’s Master of Science in Data Science (MSDS) is designed to teach students how to unlock the hidden values in big data in any setting in order to garner strategic insights and achieve results.

Founded on computer science, mathematics, statistics, and data visualization techniques, the MSDS Program is unique in that it adds deep content knowledge to specialized applications, such as communications, smart cities design, atmospheric sciences, psychometrics, and digital marketing. The result is a truly interdisciplinary approach, ensuring that graduates are able to take up the role of data scientist in any organization.

ACADEMIC ADVISORY BOARD

COLLEGE OF ARTS & SCIENCES
Mitsunori Ogihara, Ph.D.
(Tokyo Institute of Technology, Japan) theories of computation, music information retrieval, data mining, and digital humanities.

MIAMI HERBERT BUSINESS SCHOOL
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(University of Southern California) marketing analytics, strategic brand management, deep learning algorithms for advertising design and testing, dynamic optimization methods.

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ROSENSTIEL SCHOOL OF MARINE, ATMOSPHERIC, & EARTH SCIENCE
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INSTITUTE FOR DATA SCIENCE AND COMPUTING
Nick Tsinoremas, Ph.D.
The Institute for Data Science and Computing supports nationally and internationally recognized research programs, focusing on those of an interdisciplinary nature, and actively engages in research to solve the complex technological problems of modern society. IDSC provides a framework for promoting collaborative and multidisciplinary activities across the University and beyond, establishing excellence in the fundamental, as well as applied, aspects of computational science. IDSC is integral in UM’s data science activities, including the annual Smart Cities and Data Intersections conferences, as well as being home to the Pegasus and Triton Supercomputers.

**Internships**

The MSDS program provides exclusive experiential learning opportunities and industrial connections for our students, both in program and post-graduation, with the cooperation of the Institute for Data Science and Computing (IDSC). In addition, UM’s Toppel Career Center provides career education and advising for all students.

**MSDS students have completed internships with the following organizations:**

- Royal Caribbean Cruise Lines
- Baptist Health South Florida
- The Walt Disney Company
- Learning One to One
- Office Depot
- Sequoya Analytics
- TUZ Ventures
- Eikon Digital
- Precision Ecology
- City of Coral Gables

**INSTITUTE FOR DATA SCIENCE AND COMPUTING**

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IBM Skills Academy Digital Badges

The IBM Skills Academy provides students with industry recognized credentials in data science, artificial intelligence, cyber security, and the Internet of Things (IoT), giving MSDS students an advantage in today’s competitive job market.

Courses are offered by IBM-certified instructors, using hands-on labs and learning tools created by IBM Subject Matter Experts and IBM Global University Programs.

DATA SCIENCE FAST FACTS

- **SOUTH FLORIDA SAW AN INCREASE IN DATA SCIENCE JOBS OF 30% in 2021**
- **88% OF ALL DATA SCIENTISTS have at least a Master’s degree**
- **UM GRADUATE STUDENTS COME FROM 87 DIFFERENT COUNTRIES**
- **MIAMI RANKS #1 FOR START-UP ACTIVITY in the United States ACCORDING TO THE KAUFMAN INDEX**
- **MIAMI IS #3 IN TOP EMERGING TECH HUBS in the United States ACCORDING TO MASHABLE**
- **DATA SCIENCE JOBS WILL BE CREATED in the next 5 years ACCORDING TO U.S. BUREAU OF LABOR STATISTICS**
Industry Outlook

According to the United States Bureau of Labor Statistics, employment for data and information research scientists is expected to rise **19 percent** by the year **2026**, which is much faster than the average for all other professions. Additionally, digital marketing positions have increased **63 percent** in the last year.

Median Incomes

- **Data Scientist**: $149,800
- **Applications Architect**: $134,520
- **Infrastructure Architect**: $126,353
- **Psychometric Analyst**: $83,400
- **Marketing Manager**: $99,916
- **Data Engineer**: $151,307
- **Machine Learning Engineer**: $114,826
- **Statistician/Actuary**: $93,589

Scan here to learn more

UNIVERSITY OF MIAMI

COLLEGE of ARTS & SCIENCES

Office of Interdisciplinary and Professional Studies
1300 Campo Sano Avenue, Suite 215
Coral Gables, FL 33146
msdsadmissions@miami.edu
305-284-8783

www.msdatascience.miami.edu