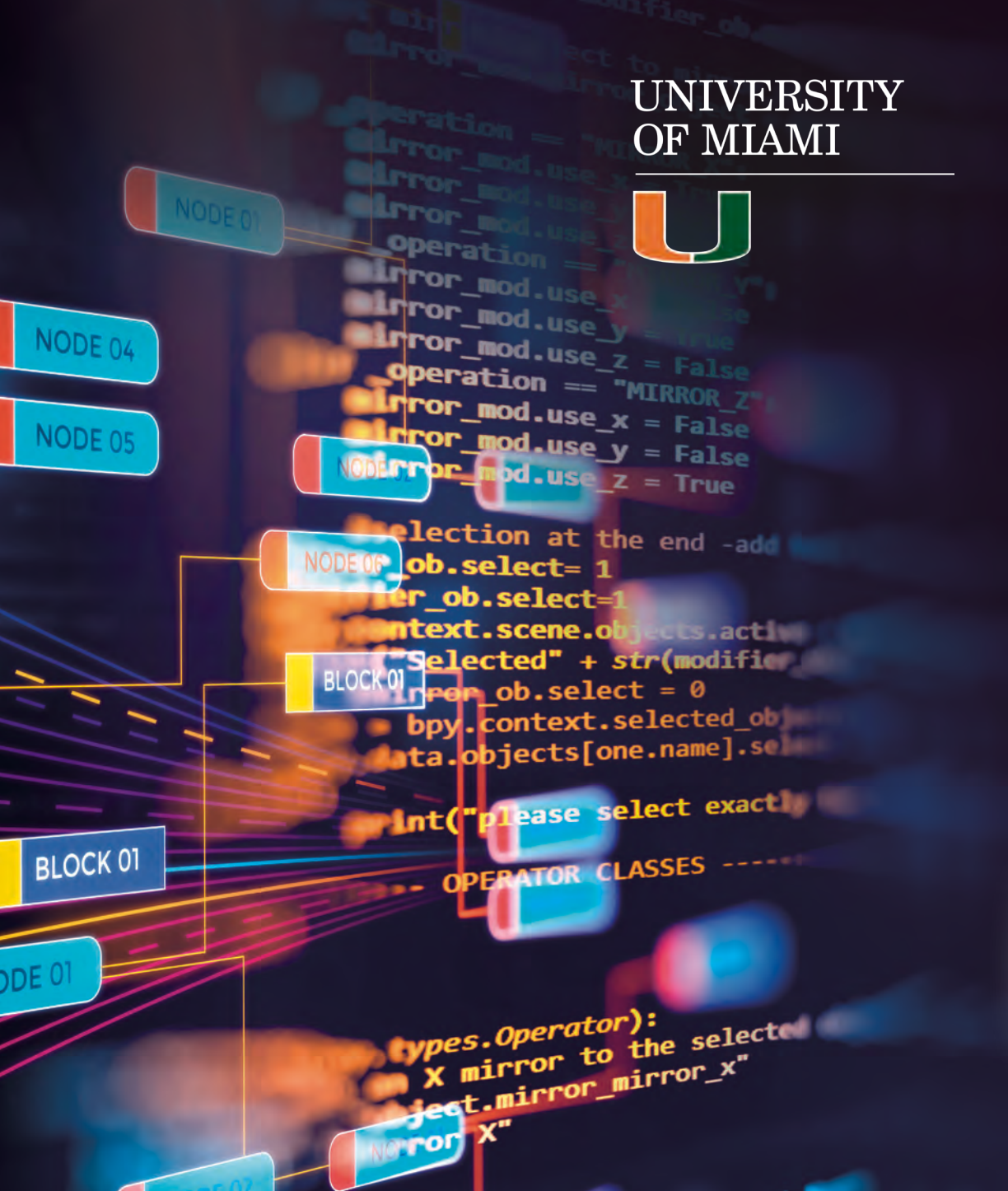


UNIVERSITY  
OF MIAMI



*Master of Science in*  
DATA SCIENCE

# BIG DATA, BIG FUTURE

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## **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**





# DATA SCIENCE

## Curriculum

What makes our Data Science program unique are the interdisciplinary connections available to students from all undergraduate backgrounds.

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.



30  
CREDITS



NO GRE  
REQUIRED

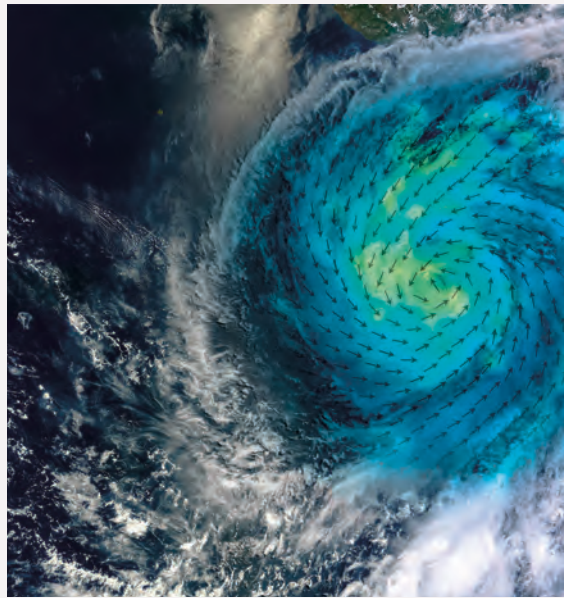




# Data Science *for all Disciplines*

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 M.S. in Data Science 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 M.S. in Data Science is unique in that it adds deep content knowledge to specialized applications, such as communications, architecture, and marine sciences. The result is a truly interdisciplinary approach, ensuring that graduates are able to take up the role of data scientist in any organization.



## CORE FACULTY

### COLLEGE OF ARTS & SCIENCES

**Mitsunori Ogiwara, Ph.D.**

(Tokyo Institute of Technology)  
theories of computation, music information retrieval, data mining, and digital humanities.

### SCHOOL OF COMMUNICATION

**Alberto Cairo, Ph.D.**

(Universitat Oberta de Catalunya— Barcelona, Spain)  
infographics, data visualization, and visual journalism.

### SCHOOL OF ARCHITECTURE

**Rodolphe el-Khoury, Ph.D.**

(Princeton University)  
applications for information technology, enhanced responsiveness and sustainability in buildings and smart cities.

### COLLEGE OF ENGINEERING

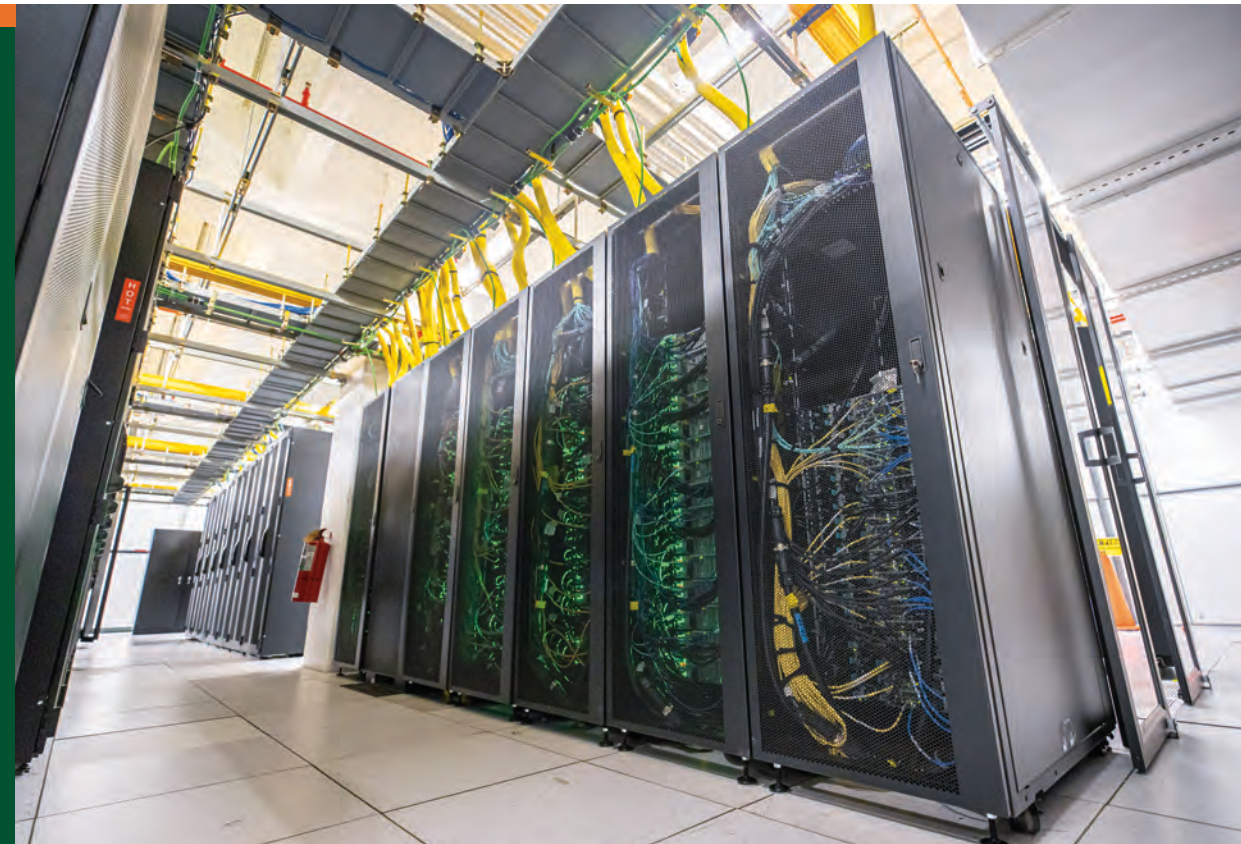
**Mei-Ling Shyu, Ph.D.**

(Purdue University)  
data mining, machine learning, big data analytics, multimedia information systems, networking, and security.

### ROSENSTIEL SCHOOL OF MARINE & ATMOSPHERIC SCIENCE

**Benjamin Kirtman, Ph.D.**

(University of Maryland—College Park)  
climate modeling and predictability, dynamic meteorology, environmental hazards, and atmospheric thermodynamics.







# Internships

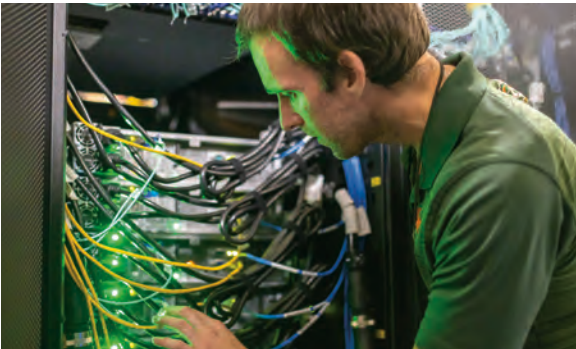
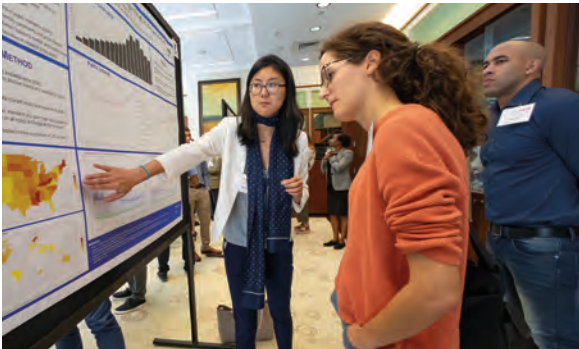
The M.S. in Data Science provides exclusive experiential learning opportunities and industrial connections for our students, both in program and post-graduation, with the cooperation of the Institute for Data Science and Computing (IDSC). In addition, UM's Toppel Career Center provides career education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

## Data Science students have the opportunity to complete internships with the following organizations:

- >> Royal Caribbean Cruise Lines
- >> Baptist Health South Florida
- >> Learning 1-to-1
- >> GameChangerTec
- >> Thinergistics
- >> GlassHouse Systems
- >> TUZ Ventures
- >> Eikon Digital
- >> Palm Beach Tech

# INSTITUTE FOR DATA SCIENCE AND COMPUTING

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.



## DATA SCIENCE FAST FACTS



UM GRADUATE STUDENTS COME FROM

87

DIFFERENT COUNTRIES

THE DEMAND FOR DATA SCIENTISTS WILL RISE

28%



88% OF ALL DATA SCIENTISTS



have at least a Master's degree

DATA SCIENTIST IS THE BEST JOB IN AMERICA for the 4th year in a row ACCORDING TO FORBES MAGAZINE

AVERAGE SALARY FOR A DATA SCIENTIST IS \$113K PER YEAR



ABOUT 11.5 MILLION

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.

## PARTICIPATING SCHOOLS AND COLLEGES

- College of Arts & Sciences
- College of Engineering
- School of Architecture
- School of Communication
- School of Education & Human Development
- Rosenstiel School of Marine & Atmospheric Science

## Median Incomes

**Business Intelligence (BI) Developer: \$89,333**

**Data Architect: \$137,630**

**Applications Architect: \$134,520**

**Infrastructure Architect: \$126,353**

**Enterprise Architect: \$161,272**

**Data Scientist: \$139,840**

**Data Analyst: \$83,878**

**Data Engineer: \$151,307**

**Machine Learning Engineer: \$114,826**

**Statistician: \$93,589**

UNIVERSITY OF MIAMI  
**COLLEGE of  
ARTS & SCIENCES**



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