

# Data Science

## Chair, Department of Statistics and Actuarial Science

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**Undergraduate major:** data science (B.S.)

**Website:** <https://stat.uiowa.edu>

The B.S. in data science produces graduates with the sophisticated analytical and computational skills required to thrive in a quantitative world where new problems are encountered at an ever-increasing rate. The major emphasizes the statistical/probabilistic and algorithmic methods that underlie the preparation, analysis, and communication of complex data. With focus on technical foundations, the data science program promotes skills useful for creating and implementing new or special-purpose analysis and visualization tools. It also promotes a fundamental understanding of how to best handle uncertainty when making data-driven decisions.

Students develop data preparation skills including writing software to obtain, extract, merge, clean, and/or transform the raw data. Analysis or information extraction methods include machine and statistical learning, statistical modeling and inference, and algorithm efficiency analysis. Data visualization, report writing, and oral presentations are important communication methods. The major includes two capstone courses that emphasize communication, ethics, and teamwork.

The Department of Statistics and Actuarial Science and the Department of Computer Science collaborate to offer the major in data science. The B.S. in data science is administered by the Department of Statistics and Actuarial Science.