SYSE 541

ENGINEERING DATA DESIGN AND VISUALIZATION

Offered every Fall

Prereqs: STAT301 or equivalent

DESCRIPTION

Data processing and visualization is increasingly important in today's data driven world, where proper management of data can facilitate the integration and evaluation of systems and projects. This class combines principles and theories of information visualization and data management with implementation techniques centered around the R statistical software program. Previous experience with R is not required, but a basic working knowledge of, or willingness to learn, will help students in this class.

BENEFITS

The goal of this class is to provide engineers with practical and applicable data science skills. This includes data aggregation, filtering, and merging, intuitive data exploration, effective communication of patterns, summaries, and findings, and methods of archiving for data sharing or future use.

COURSE OBJECTIVES

Data visualization strategically considers the underlying data and the audience's cognitive process, and utilizes innovative tools to best portray meaningful conclusions.

Students successfully completing this course will be able to:

- Understand how to clean, format, merge, and archive data sets;
- Analyze and critique data visualizations;
- Create and design visualizations [in R] based on theory and principles;
- Articulate exploratory analysis and analytical conclusions in visual formats.

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