DSA/ISE 5103 Intelligent Data Analytics

Introduction to Course

Charles Nicholson, Ph.D.
cnicholson@ou.edu

University of Oklahoma
Gallogly College of Engineering
School of Industrial and Systems Engineering

Outline

administrative: Fall 2021

Lecture

- Campus Sections: Tuesdays/Thursdays 3:00-4:15p in Gould Hall 155
- Online Sections: self-paced via Canvas

Instructor

- Charles Nicholson, Ph.D.
- Office hours: via Zoom on Tue/Thu 10:30a-12:00p
- Email: cnicholson@ou.edu
- Zoom office hours: `https://oklahoma.zoom.us/j/92199869128?pwd=VFRiZjBBbGdJemN2RTBqc3ZYTEFkUT09`

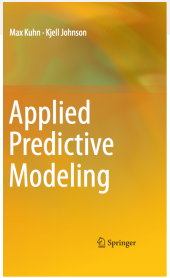
Graduate Teaching Assistant

Robert Sandel

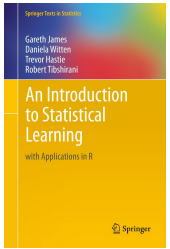
- Office hours: M/W/F 1:00-2:00p in CEC 112 and via Zoom
- See Canvas for Zoom link information
- Email: robertsandel@ou.edu

textbooks

Max Kuhn and Kjell Johnson. 2013. **Applied Predictive Modeling**. Springer
link.springer.com/book/10.1007/978-1-4614-6849-3



Gareth James, Daniela Witten, Trevor Hastie, and Robert Tibshirani. 2013. **An Introduction to Statistical Learning with Applications in R**. 4th printing
www-bcf.usc.edu/~gareth/ISL



about the course
description

DSA/ISE 5103 Intelligent Data Analytics

...is an approach to addressing real-world **data intensive problems** that integrates **human intuition** with data analysis tools to best draw out **meaningful insights**.

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- data cleansing, dimension reduction
- exploratory analysis, visualization
- predictive modeling, classification

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We will use a powerful statistical programming language (R) and conduct **hands-on, applied data analysis projects**.

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student outcomes

1. Defining and framing **Problems**

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2. Understanding and coping with **Data**

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3. Selecting and using **Analytical Tools**

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1. Defining and framing **Problems**
2. Understanding and coping with **Data**
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4. Discovering and communicating the **Insight**

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Homework:	60%
Project:	30%
Participation:	10%

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- 8 homeworks
- 1 team project

$[90 - 100\%] \leftarrow$ A
$[80 - 90\%) \leftarrow$ B
$[70 - 80\%) \leftarrow$ C
$[60 - 70\%) \leftarrow$ D
$[0 - 60\%) \leftarrow$ F

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Grading discrepancy: Grades are re-viewable only if a student requests a grade review within one week of grade posting.

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See the syllabus for an overall tentative schedule of lecture topics.

Online Resources

Syllabus and Grades

The complete

- **syllabus and tentative lecture schedule, Zoom links,**
- **as well as, upcoming due dates,**
- **important files, links, and supplementary material**
- **homework and project details,**
- **lecture PDF's, many recorded videos, and**
- **grade reporting**

for this class can (or will) be found on the course website

online resources

software links

Software: **Download and install!**

R-Project Homepage: http://www.r-project.org

RStudio IDE: http://www.rstudio.com/ide

Helpful Resources

Introduction to R http://cran.r-project.org/doc/manuals/r-release/R-intro.html

Quick-R: http://www.statmethods.net

Kickstarting R: http://cran.r-project.org/doc/contrib/Lemon-kickstart

Simple R: http://cran.r-project.org/doc/contrib/Verzani-SimpleR.pdf

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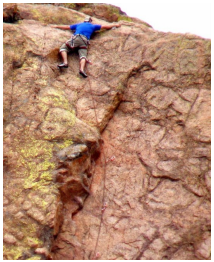
Online: http://oklahomaanalytics.com and facebook.com/ou.analytics

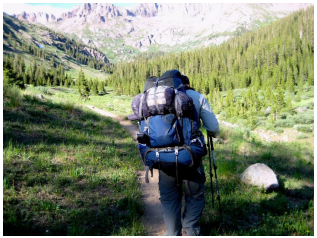
for fun



(a) Rock climbing

(b) Mountain climbing

(c) Grappling



(d) Backpacking

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- Don't get COVID-19

what's next?

Questions?