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**TWO DECADES OF TEACHING DATA
MINING AND ADVANCED DATA MINING**

Olivia Sheng

EARLIER DAYS

- Data mining (DM) before 2012
 - Only one class in business school
 - Only two to three classes on campus
- Advanced data mining (ADM) before 2016
 - Only additional data mining course in business school
- Overlaps with other courses in business school
 - Decision analysis - decision trees
 - MBA IS core – overview of the DM methods

CHANGING LANDSCAPE (BIZ SCHOOL)

- A sea of data mining, business analytics, case oriented ML, text analytics, regression, case oriented, data analysis, big data
 - Mostly in R
 - Overlaps in methods and related content
 - More practices maybe beneficial for students
 - Increasing concerns

AVOIDING OVERLAPS

- Moving targets or difficult for pre-recorded online content
- What I have done
 - Big Data – Learning from data at scale (2018)
 - First adoption of Databricks cloud for teaching data processing, DM, structured streaming (twitter, e.g.) and a big deep learning with pre-trained image models in pyspark
 - Advanced Data Mining – avoid text analytics and re-prep different topics in python

DM LEARNING OBJECTIVES

- Apply ML/AI methods to address common business questions
 - Data selection, preparation and exploration
 - Method understanding
 - Classification, numeric prediction, association rule mining and clustering
 - Concepts and how a method works
 - Extremely limited math *required*

DM LEARNING OBJECTIVES

- Evaluate, understand, improve, and explain models and performance
 - Select evaluation metrics
 - Select features
 - Select hyper-parameter settings
 - Feature importance and inherent glassbox explanation
- `rstudio.cloud` (since 2020)

ADM LEARNING OBJECTIVES

- Topics – to fit evolving cybersecurity programs
 - Mainly mining rare but interesting data
 - Other topics
 - graph mining and temporal data patterns
 - Insufficient time and practices
 - Better to be removed
 - Select hyper-parameter settings
 - Feature importance and inherent glassbox explanation

ADM LEARNING OBJECTIVES

- Enhance preparation for tackling real world data mining tasks
- Topics – to fit evolving cybersecurity programs
 - Mainly mining rare but interesting data
 - Other topics
 - graph mining and temporal data patterns
 - Insufficient time and practices
 - Better to be removed
- Python and scikit-learn with Google Colab

DELIVERY AND PEDAGOGY

- Online and cloud IDE
 - Very helpful for learning technical content
 - Any place any time
- Very hands-on
 - Relative to other ML/AI courses in business school
 - No quizzes and final exam in ADM

DELIVERY AND PEDAGOGY

- Project-oriented learning
 - A firm believer
 - Not a fan of group projects
 - Cannot accommodate projects in DM courses with a number number of students
 - Need to know the project and data well
 - Assign optional data sets in ADM

EVOLVING IDEAS

- DM
 - Change from R to Python
 - Some students need personalized requirements
 - Still not sure about how to accommodate projects
- ADM
 - Optional presentations to benefit students' projects
 - additional topics, methods and studies
- Research-oriented guidance for students who plan to apply for a Ph.D. study

INDUSTRY EXPECTATIONS FOR TRANSFORMING IS EDUCATION— DISCUSSION ON AACSB MACUDE IS TASK FORCE FINDING

- The second webinar in a series of seminars organized by AIS and AACSB MaCuDE project's IS task force provides the members of the IS community a preliminary overview of the findings of Stage II of the project. The discussion will particularly focus on the role of advanced analytics and AI in future business school curricula and the ways in which developments in these areas of study and practice are impacting the field of IS in the business school context. The outcomes of the conversation will inform the MaCuDE IS task force's Stage II report to this AACSB project as a whole. The seminar will also include commentary notes from some eminent industry experts. Please join us to help ensure that the voice of the AIS community is heard in this important discussion!
- When: June 9, 2021 at 10 a.m. Eastern Time
- RSVP: https://us02web.zoom.us/webinar/register/WN_sLiZyQ-SR8ixVJre8KFn3g



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