



Reflections on Teaching Data Science

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Outline of the Talk

- My DS related teaching experiences
- Reflections on teaching DS courses
- Reflections on teaching AI courses

My Recent Data Science Teaching Experiences

- Data Science for Business Analytics (MSBA)
- Combatting Information Overload with Recommender Systems (MSBA)
- Modern Artificial Intelligence (MSBA)
- A module on Big Data and AI in the MBA, EMBA, Tech MBA classes on *Emerging Technologies and Business Innovation*
- Introduction to AI and Its Applications in Business (MBA, Spring 2020)

Principles of Teaching DS Courses

- **Foundations matter/look under the hood:** cover core concepts and principles
- **Make their hands dirty:** analyze real data!
- **Each case is different:** try 4 – 6 different real life cases (datasets); expose students to various aspects of DS/different techniques
- **Make a story:** analyze the data and explain your findings in *clear* terms
- **Flip the classroom:** do exercises in class
- **Learn from mistakes:** learn to avoid great PoC models that do not work in production



AutoML: Automating Data Science

- Extensive recent interest in AutoML
 - E.g., Google, H2O.ai (“driverless AI”)
 - “We hope AutoML will take an ability that a few PhDs have today and will make it possible in three to five years for hundreds of thousands of developers to design new neural nets for their particular needs” Sundar Pichai
- Will the number of DSes working in the industry be significantly reduced due to AutoML? What is the future of DS? Will it be automated?

Reflections on Teaching AI to IS Students

- Make them look under the hood
 - Cover AI technologies at the helicopter level
- Make their hands dirty
 - Do practical exercises using AI frameworks
- Drop them at the deep end
 - Have one deep dive into AI tech – AI is hard!
 - Be tough, but loving...
- Focus on business: do business cases
- Future potential and current limits of AI



Thank You!

Questions?

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