Data Science: Scope & Opportunities

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CS+DS Tsunami: Illinois Version...

- CS now *largest major* at UIUC
- CS is *2nd largest teaching* unit
- Statistics has *most grad apps* across *all* liberal arts + science...
Scope: Complete Data "Pipeline"

DATA! → Data Science Pipeline
      Acquire
      Clean
      Organize
      Mine / Learn
      Decide
      Act

DATA! → Data → Info
      Archive
      Curate
      Accessible
      Regulate
      Ethics/Reproducible
      Social/Community

Info → Ecosystem
The Data Disruption…

… creates opportunities
Opportunity: Educational Breadth

- More undergrads in game
- Ex: UIUC CS+X degrees
- CS(1/2)+X(1/2)=Degree in X

- CS+Math
- CS+Statistics
- CS+Anthropology
- CS+Astronomy
- CS+Chemistry
- CS+Linguistics
UIUC CS+X: Rising Popularity

- Dramatic surge of interest “to be next X”
- Likely pivoting toward more {CS+DS}+X

Next 3 X’s
- CS+Advertising
- CS+Music
- CS+Philosophy

In discussion
- CropSci
- Educat
- Economics
- English
- Art/Design
- Business
- GeoScience
Opportunity: Educational Depth

New Illinois Master of CS in Data Sci on Coursera, Fall16

Stackable, MOOC-based, CS + Stats + Info Sci
Opportunities: Research

1. Heterogeneous data

2. Extreme scalability

Rethinking hardware stack for data

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