



# Machine Learning

Machine Learning: Jordan Boyd-Graber

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CULTURE

## Project

- Wednesday: Workshop
- Following Tuesday: Presentations
  - 9 Minutes
  - 2 Minutes for questions
  - Motivate!
  - Baselines!
  - Don't dwell on what took the most time

## Course Eval

- It's my grade
- Complain about things that need to be changed (e.g., TA)
- Be nice

## A Sociological Perspective on ML

- How to write a paper (also useful for project)
- What are the major conferences
- Major journals
- What are the major schools
- What are the major companies
- What are the major sects

## Reader 1: Lazy (but brilliant) Reviewer

- Informative section titles
- Takeaways in captions
- Bolding to find important points
- Cite accurately and extensively

## Reader 2: Replicator / Thorough Reviewer

- Don't underspecify technical details
- Source code is best, but don't rely on it
- Don't give a whiff of "cheating"

## Reader 3: Lay (Dumb) Reader

- Don't make overly broad claims
- Give the big picture
- Give examples of how it could be used in real life
- Give examples of what it does as black box (input / output)
- If you must use jargon, make sure there's reference

## What kind of paper is it?

- First or best?
- Method / Data / Analysis?
- Why will people cite it next week, next year, next century?

## Evidence

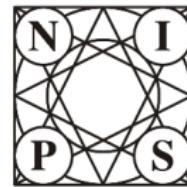
- Choose impossible to screw up baselines
- Set things up well: don't rely on equations
- Quantitative: Error bars
- Qualitative: Random examples

## Don't do stupid stuff

- Use language precisely
- Use language correctly
- Use the right tools

## Conferences

- ICML
- NIPS
- ACL
- EMNLP
- CVPR
- INTERSPEECH
- IJCAI
- AAAI
- AISTATS
- ICLR



## Journals

- MLJ
- JMLR
- TACL



**JMLR**

## Schools



- Stanford
- UW
- Columbia
- CMU
- MIT
- TTI/Chicago

## Schools



- Maryland
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## Companies: 1990s

### Twentieth Century

- 1990s
  - Microsoft
  - AT&T
- 2000s
  - Google
  - Microsoft
  - Yahoo!

### Twenty-First Century

- 2010s
  - Google
  - Facebook
  - Amazon
  - Microsoft

## Sects

- Max-Margin
- Theoretical
- Deep
- Bayesian
- Reinforcement

## Max-Margin

Vladimir Vapnik,  
FB/Columbia

Bernhard Schölkopf,  
MPI



Corrina Cortes,  
Google



## Discriminative Probabilistic

Andrew McCallum, UMass



Mike Collins, Columbia



## Theoretical

Les Valiant, Harvard



Rob Schapire, Microsoft



**Deep**

Geoff Hinton, Google / Toronto



Yann LeCun, Facebook / NYU



## Probabilistic Networks

Judea Pearl, UCLA

Daphne Koller, Stanford/Coursera

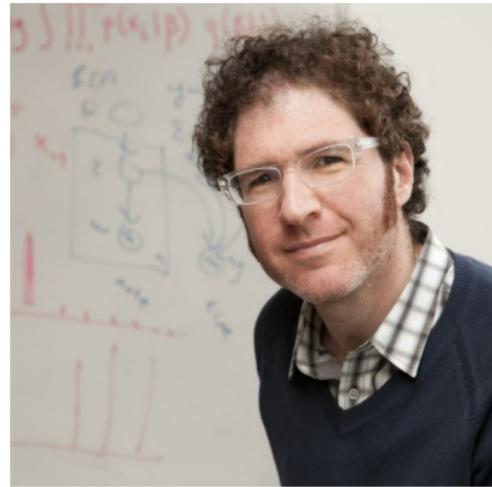


## Bayesian

Mike Jordan, Berkeley



Dave Blei, Columbia



## Reinforcement

Leslie Kaelbling, MIT



JESSICA LIU—THE TECH

Mike Littman, Brown



## Rising Stars



- Percy Liang, Stanford
- Yisong Yue, Caltech
- David Mimno, Cornell
- Tamara Broderick, MIT
- Kyunghyun Cho, NYU

**ML is fun!**

- Meetups
- Classes
- Kaggle