LECTURE 1

CS 294-78: Special topics on Technologies for Education and Learning at Large Scale
Logistics

Instructors:

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• Dr. Elaine Shi
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Logistics

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- Project submissions
- Questions
- Request for meetings
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http://groups.google.com/groups/cs294-78-s12

- Join mailing list for announcements
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Friday 1pm-3pm, SODA hall 405

❖ Part 1: 1:10pm – 1:50pm
❖ Break: 1:50pm – 2:00pm
❖ Part 2: 2:00pm – 2:30pm
❖ Discussion: 2:30pm – 3:00pm
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Requirements:

- Each student should pick a topic to survey and present & lead discussions in class
- Each student should do a final project
  - Groups of 1-2
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Grading:

20% Class participation
20% Scribe notes
20% Survey presentation
40% Project
INTRODUCTION
Technology trends

- Machine learning
- Data mining
- Crowd sourcing
- Social networks
- Pervasive computing
- Multi-media technologies
Forms of education

- Traditional in-class education
- Home schooling
- Distance education
- Self-education

- What about the future?
Discussion: Issues with Traditional Education?
Discussion: Issues with Traditional Education?

- No personalization or individualization
  - Uniform pace for all students

- School and work lack connection?

- Revolve around standardized tests?

- Cost too high?

- Too rigid?

- Size of class keeps increasing
CURRENT MOVEMENTS IN EDUCATION
MIT Open Courseware

- Started in 2000
- Over 1800 courses online
- Over 35M individuals in over 200 countries

http://www.youtube.com/watch?v=tbQ-FeoEvTI&feature=relmfu
Khan Academy

- http://www.youtube.com/user/khanacademy?blend=1&ob=4
Stanford ML online class

- Fall 2011, www.ml-class.org
- In video quiz
  - http://www.ml-class.org/course/video/preview_list
- Over 80,000 students enrolled
- This semester, 17 courses from Berkeley & Stanford on the same platform
Other Efforts

Video lectures:
- http://videolectures.net/

Intelligent learning:
- http://dsp.rice.edu/lml
- http://www.carnegielearning.com/
- http://www.knewton.com/

Mobile learning:
- http://mitmobilelearning.org/
About this Course

CS 294-78: Special topics on Technologies for Education and Learning at Large Scale
Questions

- How can education benefit from new technological advances?

- How can we best leverage new technologies to enhance the effectiveness and the outreach of our education system, while reducing the cost?

- What are the key problems and challenges in achieving such goals?
Questions

- What are the structural and societal implications of these disruptive technologies for education?

- How will technology change the role of schools and universities in the future?
Topics covered & Schedule

- Current online education efforts
- Machine learning and education
- Programming languages and education
- Using social media and crowd sourcing to enable large-scale education
- Sensor monitoring technologies for education
Topics covered

- Security and evaluation technologies
- Game-based learning
- Pervasive learning
- Platform technologies
- Psychology, economics of education

and your suggested topics!
Talk Announcement

Social Media and Peer Learning: From Mediated Pedagogy to Peeragogy

Howard Rheingold
Monday, January 23, 5pm
210 South Hall, UC Berkeley

http://www.rheingold.com/university/