

LECTURE 1

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

Logistics

Instructors:

- Prof. Dawn Song (Soda Hall 675)
- Dr. Elaine Shi
 - Research scientist in security group and AMPLab

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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

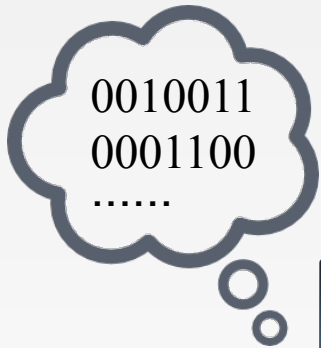
20% Scribe notes

20% Survey presentation

40% Project

INTRODUCTION

Technology trends



Machine learning
Data mining



Social networks

Crowd sourcing



Pervasive computing
Multi-media technologies

Forms of education

- ❖ Traditional in-class education
 - ❖ Home schooling
 - ❖ Distance education
 - ❖ Self-education
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- ❖ 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](http://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/>

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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/>