WELCOME TO CS190

David Kauchak
CS 190 – Fall 2014

Who are you?

Name, School, Major(s)

Thesis topic interests

Something interesting about yourself

What you want (plan) to do when you graduate

Anything else?

This course…

What is the goal?

What does it involve?

What is the goal

Introduce you to research in computer science

- Reading research papers
- Research presentations

Begin the first steps for your senior project

- Guide you through the process (i.e. remind of of deadlines ☺)
- Get feedback from myself, the other faculty and the other students

What does it involve

Three main components

- Colloquium
- Paper reading and presentations
- Senior project preparation

Colloquium

Roughly every other Thursday at 4:15pm

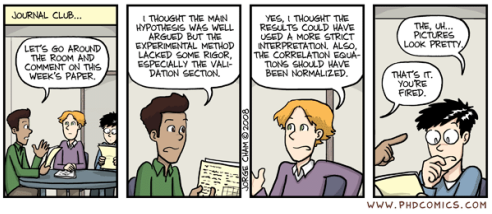
http://www.pomona.edu/academics/departments/computer-science/colloquium/

Attendance *is required*

If you can't make one, arrange beforehand with myself to make it up by attending one up at Mudd

A good chance to find out more about what goes on in CS

Paper reading



http://www.phdcomics.com/comics/archive.php?comicid=963

Each week

There will be a paper to read

(http://www.cs.pomona.edu/~dkauchak/classes/cs190.3/)

30 minute presentation by 2-3 presenters

30 minute discussion around the paper

If you're not presenting

1. Read the paper
   - This should happen at least a day in advance of the class (ideally a few days before)
   - plan on a couple of hours
2. Go to the sakai forum for the paper
   - Read the comments/questions
   - Post something thoughtful
   - Must happen by 5pm the day before the presentation
3. Show up to class
   - Pay attention (stay off your phone/laptop)
   - Ask questions and contribute to the discussion

If you are presenting

1. Read through the paper (start early!)
2. Read through the paper again
3. Discuss the paper with your presentation partner/group
4. *Optional*: Setup an appointment to talk to me
   - Don't wait until the last minute to do this!
5. Put together your presentation
6. Practice your presentation
7. By 5pm the day before: Post some discussion topics/ questions on sakai
8. After 5pm the day before: Review the sakai discussion board and adjust presentation accordingly
9. *Optional*: arrange to meet with me to discuss your presentation

Homework #1

You will be presenting **two** papers throughout the semester

Look through the papers and decide which look interesting
- Read the abstracts and introductions
- Glance through the rest of the paper

I will send out an e-mail after class with a link for you to upload your preferences (due by tomorrow at 1pm)

Senior project preparation

Deadlines:

http://www.cs.pomona.edu/~dkauchak/classes/cs190.3/

Start thinking about ideas now!

Kim Bruce: programming languages

Rett Bull: security, theory of computation

America Chambers: AI, machine learning, natural language processing

Yi Chen: algorithms, complex networks

Dave Kauchak: AI, machine learning, natural language processing

Art Lee (CMC): databases, distributed systems

Melanie Wu: databases

How to narrow it down to a field

Which classes have you enjoyed most?

Are there topics you wanted to investigate/learn more about?

Life after Pomona?

What sounds interesting?

Now what?

Track down a textbook for that topic and browse through it

Scan over recent papers in this field
- Some textbooks will have bibliographic information
- Use Google to find conferences
- Google scholar

Talk to CS faculty to get some direction
- Remember, there are 30 of you!

Talk to other students

Attend the project discussion meeting on 9/9

Remember…

9/16: submit a ranked list of advisor/topic
- List of three
- Must have at least 2 unique topics
- Must have at least 2 unique advisors

We'll try hard to give everyone their first choice

What will make it more likely that you get your first choice?

Homework #2

Start figuring out your topic!

Administrative

http://www.cs.pomona.edu/~dkauchak/classes/cs190.3/administrivia.html

Evaluating presentations

Well prepared

Organization

Content

Slide quality/use of visual aids

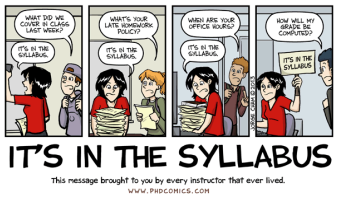
Discussion

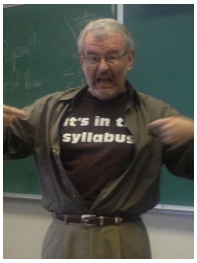
Homework #3

Spend a couple of hours:

- Read the senior exercise handout (Sections 1, 2, Apendices A, B)
- http://www.cs.pomona.edu/classes/cs190/
- http://www.cs.pomona.edu/~dkauchak/classes/cs190.3/

Homework #3





Reading academic papers: my two cents

Reading academic papers

- Advice on reading and presenting research papers:
  - *How to Read a Research Paper* by Spencer Rugaber
  - *How to Present a Paper* by Ashwin Ram, a short document that contains several good suggestions
  - *How to give a good research talk* by Simon Peyton Jones and others
  - *An Open Letter to Research Students* by Duane Bailey talks about projects that differ a bit from ours, but the points are still relevant

Presentations

What makes a good presentation?

What makes a bad presentation?

Presenting academic papers: my two cents

Make sure you understand the paper (or at least most of it)

Think about what you want to talk about:

What was the paper about?

Why did the person write this paper?

What are the interesting aspects to this paper?

Organization

What problem is the paper trying to solve?

Why should we care about this problem?

Optional: What have other people done? How does this fit in the context of previous/ current work?

Approach/algorithm description/analysis

Experimental setup

Results

Conclusion/future work

Dos and Don'ts

Don't:

- Put too much information on one slide
- Put too much text on one slide
- Only use text and bullet points (ignore this presentation ☺)
- Procrastinate on preparing the presentation!

Dos and Don'ts

Do

- Use figures, diagrams and other visual aids
- Plan on no more than 1 slide per minute
- Use large fonts
- Think about what things you've liked/disliked in other presentations
- Make sure you annotate your figures, equations, etc.
- Practice, revise and reiterate

Homework?

#1 Submit your preferences by tomorrow at 1pm

#2 Start investigating your senior project topic

#3 Read the senior exercise handout and other course resources