Welcome to CS8!

Instructor: Dave Abel
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Wednesday, January 27, 2016
Meet the Staff
TAs

› A resource to help you in the course:
  - Office Hours, Labs, Review Sessions, Email.

› Administrative questions:
  - HTAs (cs008headtas@cs.brown.edu)

› All other questions
  - UTAs (cs008tas@cs.brown.edu)
My Interests
Which CS Course is For You?

- CSCI0150/0160, CSCI0170/0180, or CSCI0190: Intro to programming and data structures relevant to potential CS concentrators.

- CSCI0931: Intro to applied CS relevant to Social Sciences/Humanities.

- CSCI0040: Intro to programming relevant to Engineering/Sciences.

- [http://cs.brown.edu/degrees/undergrad/whatscourse.html](http://cs.brown.edu/degrees/undergrad/whatscourse.html)
CS8 Course Goals

1. Learn about the exciting field of computer science!

2. Learn a new form of thinking.

3. Learn a bit of programming:
   - Weekly programming assignments during Lab
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Course Structure

› 11 units

› One unit per week

  - Lecture: Monday, Wednesday, Friday
  - One homework per unit (first Homework is for Unit 1)
  - One lab per unit (first lab is for Unit 2).
Topic Overview: First Half

1. Logic (*first homework*)
2. Programming (*first lab*)
3. Algorithms
4. Databases
5. Machine Learning (*midterm after ML*)
Topic Overview: Second Half

6. Computer Vision & Natural Language Processing
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6. Computer Vision & Natural Language Processing
7. Theory: Computability & Complexity
8. Compression & Error Correcting Codes
9. Recursion
10. Cryptography
11. (BONUS) Applications
Guest Lectures

‣ Professors from other departments!

‣ Q: How does computer science affect your field?
Expectations

‣ Homework: short answer & conceptual questions

‣ Lab: programming (Scratch)

‣ Activity!

‣ Class: iClickers.

‣ Exams: Midterm and Final
  • Tentatively: Monday 3/21 and Thursday 5/19

‣ End of term writing assignment
Grading

- Homework: 20%
- Lab: 30%
- Midterm: 15%
- Final Exam: 20%
- Final Writing Assignment: 5%
- Activity Participation: 5%
- Class Participation: 5%
Readings

- Course text: “Nine Algorithms that Changed the Future” by John MacCormick
- One reading per week.
- Supplements homeworks/labs/lecture.
- First reading: Syllabus + Collab Policy
Office Hours

- My hours: Monday & Friday, 11am-noon
  - (Or by appointment)
- My office: CIT 321
- TAs: hours listed on the website/calendar!
  - (At least 1 hour per day)
An Exciting Opportunity...
Telescope Science: A Parable

1: Thanks to Michael Littman for this parable
Telescope Science: A Parable
Telescope Science: A Parable
Telescope Science: A Parable
In spite of the name, it was never really about the telescope. It was about understanding the physical universe.
Similarly, computer science isn’t about the computer.
What is Computer Science?

› Abstraction
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- Problem Solving!
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  - E.g. Digital Media, Electronic Music, Games, Animation.
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- World Changing!