

CSE 150. Intro to AI

Probabilistic Reasoning and Decision-Making



Welcome to CSE 150!

“I've always considered the most boring 20 minutes of the semester the time I spend reading the syllabus on the first day of class.

Students come in, potentially excited about getting started, only to end up listening to me read aloud.

I imagine them paraphrasing in their heads one of my favorite Woody Allen lines: Thanks, but I've been doing my own reading since about the first grade.”

<http://chronicle.com/weekly/v53/i02/02c00201.htm>

Who uses probabilistic methods in AI and ML?

- **Google** - pattern matching
- **Amazon** - customer profiling
- **Microsoft** - multimedia OS
- **Wall Street** - time series prediction
- **Game makers** - enemy AI
- **FBI** - forensic speaker ID

Prerequisites

- **Programming**

- Homeworks will involve coding.
- Also: basic data analysis and visualization.
- Solutions accepted in any language!
- Java, C/C++, MATLAB, Perl, Python, etc.
- No hand-holding with compiling, debugging.

Non-CS majors are welcome.

Prerequisites

- **Elementary probability**
 - Random variables
 - Expected values
- **Calculus**
 - Computing derivatives
 - Computing maxima and minima
- **Linear algebra**
 - Matrix multiplication, inverses
 - Solving systems of linear equations

Readings versus lectures

- **Readings**

- No truly required texts.
- Some handouts in class.

- **Lectures**

- Designed to be self-contained.
- Important for homework assignments.
- Emphasis on mathematical development.
- Blackboard, not powerpoint!

Homework

- **Academic dishonesty**
 - You may consult published and online texts.
 - Do not copy from current (or former) students.
 - Cheating will be severely punished.
- **Rules of the game**
 - One two-day extension: no questions asked.
 - Other late assignments: half credit.
 - No credit once solutions are out.
 - Working in groups is allowed.
 - Write (but do not type) up your own solutions.

Online resources

- **Piazza**

- Posting of homeworks, notes, handouts
- Online Q/A and discussion boards

<https://piazza.com/ucsd/winter2014/cse150/home>

- **Gradesource**

- Scores on homeworks and quizzes
- Class statistics and rankings
- Please check routinely for accuracy

<http://www.gradesource.com>

Medical diagnosis

(http://www.norsys.com/net_library.htm)

