Welcome to
CS470/670 – Artificial Intelligence

Fall 2018
Instructor: Marc Pomplun

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The Visual Attention Lab
Eye movement research

The new EyeLink-2K System

Example: Distribution of Visual Attention

Selectivity in Complex Scenes
Selectivity in Complex Scenes

Selectivity in Complex Scenes

Selectivity in Complex Scenes

Modeling of Brain Functions
Now back to the Course:

Textbook:
Morgan Kaufmann 1998
ISBN 1-55860-467-7
• You can buy it at the UMB bookstore or get it online (currently $33 on Amazon).
• It is a relatively old book but covers the basics of AI very well.
• For subjects such as neural networks we will use up-to-date online resources.

Course Website
Important! Course homepage:
http://www.cs.umb.edu/~marc/cs470/
• Contains all kinds of course information and also my slides in PDF and PPTX formats.
• Is updated after each session because some slides contain questions and answers that would become useless if you had the slides in advance.

Your Evaluation
• 6 sets of exercises that include programming tasks 35%
• midterm (75 minutes) 25%
• final exam (2.5 hours) 40%
Grading

For the assignments, exams and your course grade, the following scheme will be used to convert percentages into letter grades:

- \[95\%: A\]
- \[90\%: A-\]
- \[86\%: B+\]
- \[82\%: B\]
- \[74\%: C+\]
- \[70\%: C\]
- \[66\%: C-\]
- \[62\%: D+\]
- \[56\%: D\]
- \[50\%: D-\]
- \(< 50\%: F\)

Academic Dishonesty

You are allowed to discuss problems regarding your homework with other students in the class. However, you have to do the actual work (computing values, writing algorithms, drawing graphs, etc.) by yourself.

You cannot copy anything from other sources (Wikipedia, other students’ work, etc.)

The first violation will result in zero points for the entire homework or exam (and official notification).

The second violation will result in failing the course.

Complaints about Grading

If you think that the grading of your homework was unfair, please talk to the TA (to be announced).

If you are still unhappy afterwards, please talk to me.

If you think that the grading of your midterm exam was unfair, please indicate your concerns by putting sticky notes or attaching an extra sheet and give it to me or put it into my mailbox.

What is this Course about?

- We will study both symbolic and connectionist AI.
- **Symbolic AI** is the “traditional” approach of problem solving through symbolic representation and manipulation.
- We will use the Haskell programming language to study the fundamental concepts of symbolic AI.
- It is a functional language that will allow us to “play around” with these concepts in a convenient and efficient way.

- **Connectionist AI** is the attempt to store and process information in a distributed way similar to the neural mechanisms in humans and animals.
- For example, deep learning is a currently very successful branch of connectionist AI.
- For the simulation of neural processing, execution speed is crucial.
- Therefore, we will use the C programming language for our example programs.
Syllabus

- We will cover a variety of AI basics as well as applied aspects so that you will be able to successfully use AI in your own software.
- Let us just look at the course syllabus:

http://www.cs.umb.edu/~marc/cs470/