CMPS 191/280A: Seminar on Intelligent Technologies

Prof. Marilyn A. Walker
Who am I?

- Google “Marilyn Walker”
- Google Scholar “Marilyn Walker”
- users.soe.ucsc.edu/~maw
- nlds.soe.ucsc.edu
How to get an A

- Come every week. I will take attendance.
- Take notes on the talks in a special notebook that you can show to me when I ask.
- Term Paper: Can start earlier if you identify topic earlier. Deadline for Part I is last week of class so that if you are interested in EBAY as a topic you can decide after you hear the talk, but you can turn it in any time and I will give you feedback.
May 18th we will meet in a different room. TBD.
What makes a technology intelligent?
There are intelligent technologies now all over the place

The AI Revolution Is On

By Steven Levy on December 27, 2010 | 12:00 pm | Wired January 2011

Today’s A.I. bears little resemblance to its initial conception. The field’s trailblazers believed success lay in mimicking the logic-based reasoning that human brains were thought to use.

Photo: Dwight Eschliman; Illustration: Zee Rogér
Google Goggles

Use pictures to search the web. Watch a video

Get Google Goggles
Android (1.6+ required)
Download from Android Market.
Send Goggles to Android phone

New! iPhone (iOS 4.0 required)
Download from the App Store.
Send Goggles to iPhone

Google Goggles in action

Click the icons below to see the different kinds of objects and places you can search for using Google Goggles.
Robotics

- Robots make cars in all advanced countries
- Robot coaches and companions
- Unmanned vehicles, DARPA Grand Challenge.
- Military Applications
- Education, Nursing, Companionship

Interactive Systems

- Intelligent Virtual Agents
- Dialogue Systems
- Relational Agents
- Intelligent Tutoring and Training Systems
Alfred Experiment: Gaze & Personality

Extraversion + Dominance Reinforcing
High Extraversion + High Dom Gaze => Most Dominant
Low Extraversion + Low Dom Gaze => Least Dominant
The web has changed everything?
Knowledge, Inference

- Search systems like Google are not perfect but very effective information retrieval
- Automatic knowledge discovery from web (e.g. labs.google.com/sets)
- Machine Translation
It doesn't matter if the cat is white or black. If it can catch a mouse, it's a good cat.

No importa si el gato es blanco o negro. Si se puede coger un ratón, que es un buen gato.
It doesn't matter if the cat is white or black. If it can catch a mouse, it's a good cat.

No importa si el gato es blanco o negro. Si se puede coger un ratón, que es un buen gato.

No matter if the cat is black or white. If you can catch a mouse, which is a good cat.
We’d better get a move on if we’re going to be there by curtain time.

Será mejor que darse prisa si vamos a estar allí por tiempo de cortina.

You better hurry if we're going to be there for curtain time.
What about different meanings for the same word (word senses)?

*We went to the bank.*
*We took the fish to the bank.*

*We took the check to the bank.*
*We went fishing at the bank.*

*Nos fuimos a la orilla.*
*Tomamos a los peces a la orilla.*

*Tomamos el cheque al banco.*
*Fuimos a pescar en el banco*
Next week

- Patrick Ehlen, AT&T Yellow Pages. S Francisco
- Spoken dialogue and multimodal access to tourist information.