Welcome to Cogsci 1!

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Course Website:
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Featured Research

Studying Humans in their Natural Settings

We know more about how baboons forage and play than about how humans behave in the privacy of their offices. In the Interactive Cognition Lab we are studying human behavior in natural settings such as offices, computer games, and classrooms in order to deepen our understanding of the principles underlying everyday activity. Designers are eager to create new digital supports for offices, kitchens and classrooms, but before such tools can be invented it is important to learn how people actually work and manage their tasks. The product that has been emerging is a better theoretical grasp of the dynamics of activity, one that is based on a richer ontology of resources and the activity space in which people operate. This work is helping to set the stage for Context Aware Environments in which networked sensors and processors continuously model the state of an environment, and work with new digital artifacts to help offices and other environments adapt to the changing needs of their inhabitants.

"How do office dwellers work in their everyday environment?"

More features...

More about this project...
Overview

- What is Cognitive Science?
- What’s the program like?
- What do our students do after they graduate?
What is Cognitive Science?

- the science of understanding how humans, animals, and machines think, act, and learn
- a young discipline
- an “inter-discipline”
- three pillars:
  - brain
  - behavior
  - computation

+ Engineering, Physics, Mathematics
Studying the Brain

- understanding the brain processes underlying cognition
- various techniques to observe the brain “in action”
Studying Behavior

- study perception, action, thinking, and learning in adults, children, patient groups
Studying Computation

- building computational/mathematical models of aspects of brain function
- studying the design of artificial intelligent systems

\[ a_i(t) = \Phi \left( \sum_j w_{ij} b_j \right) \]

\[ \Phi(x) \equiv \frac{1}{1 + \exp(-x)} \]
What’s The Program Like?

- Cognitive Science Major
- Either B.A. or B.S. (B.S. requires additional math, 3 additional upper division courses).
  - Honors Program (3.5 GPA, thesis project, and one graduate course).
  - Largest percentage of majors doing independent research projects with faculty.
Cognitive Science Majors

![Bar chart showing the number of total, male, and female majors from 1998 to 2003. The chart indicates a general increase in total majors over the years, with a particular peak in 2003. The number of male majors slightly decreases while the number of female majors increases.]
Specialization Options (only BS)

- **Clinical Aspects of Cognition** (cognitive neuropsychology, cognitive disorders, drug effects, brain damage, electives in chemistry, biochemistry, and physiology).

- **Computation** (software engineering or research in computational modeling, electives in neural networks, artificial intelligence, and computer science).

- **Human Cognition** (human psychology, electives in cognitive development, language, lab research in cognition, anthropology, and sociology).

- **Human Computer Interaction** (applications of cognitive science in design and engineering, web, visualization, electives in communication, computer science, computer engineering, visual aids).

- **Neuroscience** (neuroscience research or medicine, electives in cognitive neuroscience, organic chemistry, biochemistry, physiology).
What Do Our Students Do After They Graduate?

- First: They Do Graduate
  - > 80% of students admitted graduate
  - Average time is 4.4 yrs

- An Advantage of a Cognitive Science degree is career flexibility
  - Like Psychology but with greater computational skills and facility with a wider array of techniques
  - Like Computer Science but with a greater appreciation for cognitive and sociocultural factors
What Do They Do? (cont.)

- Graduate or Professional School (~30%)
  - Cognitive Science, Computer Science, Neuroscience, Medical School…
  - Top schools: UCSD, Stanford, Caltech, MIT, CMU…

- Most frequent job placements
  - Computer Industry: cognitive engineering, human computer interaction, software design and development, Internet startups (MP3)
  - Biological areas: Neuroscience, biotech, pharmaceutical

Increasingly sought after as employers become familiar with the skills and knowledge our graduates possess.
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<th>Year</th>
<th>Name</th>
<th>Position</th>
<th>Company</th>
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<td>1991</td>
<td>Doug Sperber</td>
<td>Managing Director</td>
<td>InSynergy Group</td>
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<tr>
<td>1992</td>
<td>Jody Courtney</td>
<td>Scientific Alliance Manager</td>
<td>Incyte</td>
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<td>1993</td>
<td>Michael Erickson</td>
<td>Assistant Professor</td>
<td>UC Riverside</td>
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<td></td>
<td>Kyle Haight</td>
<td>Software Engineer III</td>
<td>Cisco Systems, Inc</td>
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<tr>
<td></td>
<td>Brent Kronenberg</td>
<td>Director/Principal</td>
<td>Avanade</td>
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<tr>
<td>1994</td>
<td>Julie Catellier</td>
<td>Comp. Sys. Administrator</td>
<td>Vanderbilt University</td>
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<tr>
<td>1995</td>
<td>Isaac Sun</td>
<td>President</td>
<td>Belle Holdings</td>
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<tr>
<td>1996</td>
<td>Alex Aumann</td>
<td>Human Factors Engineer</td>
<td>Cubic Transp. Systems</td>
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<td>1997</td>
<td>Anand Agrawal</td>
<td>Senior Project Lead</td>
<td>Selectica</td>
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<td>Rich Fletcher</td>
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<td>1998</td>
<td>Richard Kim</td>
<td>Web Systems Specialist</td>
<td>Boeing</td>
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<td></td>
<td>Jennifer Ozaki</td>
<td>Instructional Scheduler</td>
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<td>1999</td>
<td>Chris Gutierrez</td>
<td>Software Engineer</td>
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<td>William Leight</td>
<td>Medical School</td>
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<td>Miki Urban</td>
<td>Software Programmer</td>
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<td>2000</td>
<td>Jeff Mealiffe</td>
<td>Software Design Engineer</td>
<td>Microsoft Corporation</td>
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<td>Josh Schoenwald</td>
<td>Engineering Grad Student</td>
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<td>2001</td>
<td>Tanya Fletcher</td>
<td>Transcription Ops Manager</td>
<td>EdiX Corporation</td>
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