Engineering Neuroscience & Health

USC
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SEMINAR SERIES

Presents:

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Monday

February 9, 2009
4:00 p.m.
Refreshments will be served 3—4 p.m.

Modeling bottom-up and top-down visual attention in humans and monkeys

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Visual processing of complex natural environments requires animals to combine, in a highly dynamic and adaptive manner, sensory signals that originate from the environment (bottom-up) with behavioral goals and priorities dictated by the task at hand (top-down). Together, bottom-up and top-down influences combine to serve the many tasks which require that we direct attention to the most "relevant" entities in our visual environment. While much progress has been made in investigating experimentally how humans and other primates may operate such goal-based attentional selection, very little is understood of the general mathematical principles and neuro-computational architectures that subserve the observed behavior. I will describe recent computational work which attacks the problem of developing models of visual attentional selection that are more flexible and can be strongly modulated by the task at hand. I will back the proposed architectures up by comparing their predictions to behavioral recordings from humans and monkeys. I will show examples of applications of these models to real-world vision challenges, using complex stimuli from television programs or modern immersive video games.

Locations:
Seminar is simultaneously presented

UPC: HNB 100 – LIVE

Hedco Neurosciences Building

UPC Campus Map/Directions:
http://www.usc.edu/about/visit/upc/

HSC: CHP 147 - Video Conference

Center for the Health Professional

HSC Campus Map/Directions:
http://www.usc.edu/about/visit/hsc/

Web Cast

http://capture.usc.edu/college/Catalog/?cid=af180d48-ceff-42b9-a35c-eb199daed320

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http://www-clmc.usc.edu/~heiko/ENH