



ENF – Emulating the Mind Call for Papers

The Human Psyche – A Neuro-psychoanalytical Approach

The ENF, which took place the first time on July 23, 2007 in Vienna, is a forum that brings together neuro-psychoanalysts and engineers. The 1st ENF featured a total of nine presentations and six discussion groups. This Call for Paper shall now foster the new cooperation between neuro-psychoanalysts and engineers in the aftermath of the ENF. Prospective authors interested in this field are invited to contribute papers to one of the topics listed below.

Papers are peer reviewed by multiple reviewers; acceptance of papers is decided by a program committee consisting of experts in neuro-psychoanalysis and engineering. All accepted contributions will be printed in a book. Recommended paper length is 8-12 pages in 10pt font.

Important Dates

Submission Deadline: Jan 31, 2008
Notification of Acceptance: Feb 28, 2008
Camera-ready version: Mar 20, 2008
ENF book available: Aug, 2008

Information and Submission to:

enf-book@indin2007.org

This file and additional information is available at:

<http://www.indin2007.org/enf/cfp.php>

Foundation

Psychoanalysis and Engineering

Goals of the ENF Book

- Introduce the psychoanalytic model of the mind into computer engineering
- Build up a new interdisciplinary scientific community
- Create an interdisciplinary organized network of engineers, neuroscientists, psychoanalysts, pedagogues, and psychologists
- Design a unitary model of the mental apparatus based on the psychoanalytic functional model
- Use the model for technical systems and simulations of psychological functions

Guidelines for Contributions to the ENF Book

- Simulations of the human psychic functions in accordance with neuroscientific as well as psychoanalytic expertise
- Designs of a unified model of mental functions
- Modularization of mental functions
- Functionality of Freudian Ego-Id-Superego Model
- Definition of interconnections and coherences (tech: interfaces) of mental functions
- Technical architectures or solutions employing the neuro-psychoanalytic model
- Applications of the neuro-psychoanalytic model in technical systems
- Proposals for filling the gaps and overcoming barriers between the scientific disciplines
- Approaches as to how neuro-psychoanalysis can help to advance state-of-the-art artificial intelligence

Questions to be Discussed

Psychoanalysis and Computer Engineering – The matchmakers challenge!

1. If an artificial intelligence is not conscious, can it perform truly mental functions? What makes a function mental?
2. What is the specific contribution that psychoanalysis in particular can make to computer engineering (as opposed to psychology in general)?
3. What contribution can computer engineers make to psychoanalysis?

The mammal in the machine

1. What are the requirements or basic principles that are necessary for creating a human-like psyche (inhibition and amplification, plasticity, conflicting forces, minimum effort, inner world, different systems cooperating)?
2. How can we modularize mental functions for engineering purposes?
3. How can we unify the specifications of basic emotions and drives?
4. To what extent are human control-loops understood? (emotions, hormones, ...)
5. Do machines need sleep or a similar period of non-operation? Or can the necessary processes run in background all the time?
6. Humans learn very much after birth while animals don't. How can we locate a technical system in this respect?

The remembering body

1. How is "memory" organized functionally?
2. Coding of memories: what is known on the level of neurons, on the level of semantic memory?
3. Who governs the updates (add/delete) of memories?
4. Do we need different technologies to implement different types of memory?
5. How much embodiment does memory need?

Emotions, Drives and Desire (Silicone in love)

1. How can we engineer control systems for machines that would emulate human behavior triggered by emotions, drives and desires?
2. How can we unify the specifications of basic emotions and drives? To what extent are human control-loops understood? (emotions, hormones, ...)
3. Should we model a brain or should we model a mind?
4. How can we model cathexis - the drive to invest emotional energy in a person, object or idea?
5. How can we model inspiration, creativity, or being a positive force and an inspirational force for others?
6. Would a machine with its own drives, emotions and feelings be willing to work for man?
7. How can we model the lowest level of motivation for a living thing?
8. Should we distinguish between emotions and feelings?

Getting a grasp...

1. Can we model the brain without considering its physiological basis?
2. Does intelligence require embodiment?
3. Which properties and needs of a body are crucial to achieve intelligence in an organism?
4. How do drives, emotions, and desire contribute to the development of human intelligence?

Free Will

1. If there is such a thing as free will – what are the mental functions behind it?
2. How can we simulate mental functions?
3. Would a machine with its own drives, emotions and feelings be willing to work for man?
4. Is there a dialectical relationship among free will, emotions and drives?
5. Would a human want its robot to show free will?