

Neuromorphics Laboratory

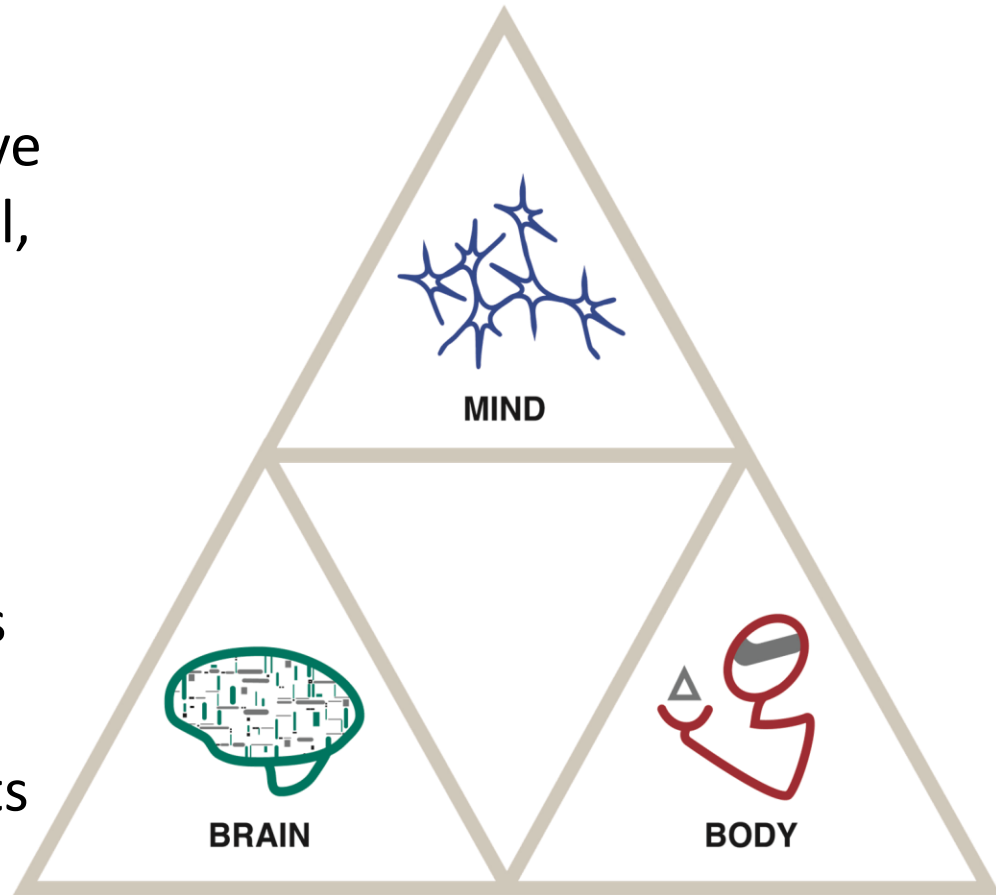
BOSTON
UNIVERSITY

- Neuromorphics Laboratory, Boston University
- Massimiliano Versace, Lab Director
- The lab includes 15 faculty, postdocs, students, lab technicians, and interns
 - Industrial collaborations (HP, Neurala)



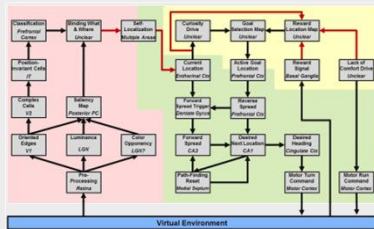
Neuromorphics Lab research areas:

- 1) neural modeling of **integrative brain systems**, including adaptive perceptual, cognitive, emotional, planning, and spatial behaviors, and skilled action (MIND)
- 2) the design of massively parallel **software** and low-power **neural chips** able to implement models at biological scales (BRAIN)
- 3) their application to virtual agents and **mobile robotic platforms** (land and UAVs, BODY)

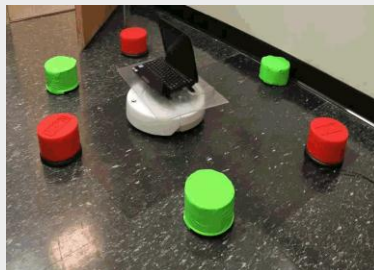
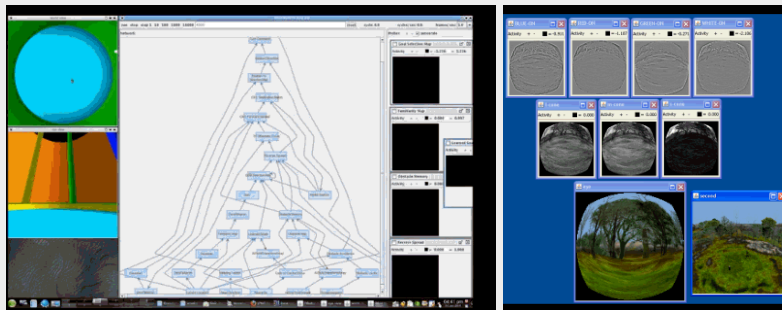


Neuromorphics Lab unique qualifications and capabilities

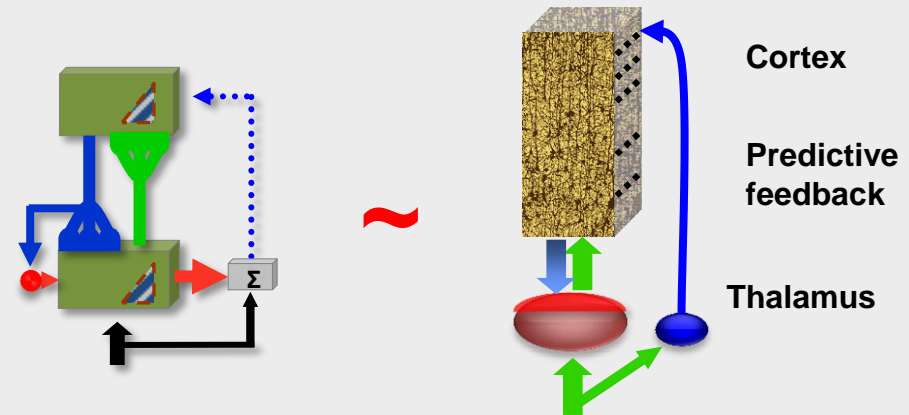
Integrative brain systems



The "unit"
~32M neurons
~13B synapses



Hierarchical architecture for perception, attention, cognition, and learning



Thalamo-cortical loops can be organized in hierarchies to learn higher-order spatio-temporal patterns and causal relationships

Biological substrate for conceptual knowledge representation and learning

- The Neuromorphics Lab is seeking to join groups
 - with experience in the study of behavioral, psychological and neurobiological basis of knowledge representation
 - with experience in linguistics
 - seeking a strong neural modeling partner with experience in robotic and real-world applications and track record of collaborative research with industry.



Contact Information

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