4.8.2020

NOVEMBER

13 Thursday

CSE418 INTRODUCTION TO NEURAL AND COGNITIVE MODELING

TAUGHT BY

- prof. bapi raju S.

COURSE TOPICS

1. introduction to neuroscience
   - compartmental models of neuron
   - spiking neuron models
   -
2. neural population codes
   - information representation
   - neural encoding and decoding
   - hierarchy and organization of sensory systems
   - spiking network models of sensory systems.
   - neuroplasticity and learning

2014

4.8.2020

DECEMBER 2014

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

2 NOVEMBER

Friday 14

WK 46 • 318-047

3. introduction to hebbian, competitive, and error-driven learning rules.

- neural network models of perception, attention, memory, language, and executive function.
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TEXTBOOKS

1. computational explorations in cognitive neuroscience: understanding the mind by simulating the brain; O'reilly. (2000)

2. the book of GENESIS: exploring realistic neural models with the GEneral NEural Simulation System; bower. (2003)

3. theoretical neuroscience: computational and mathematical modeling of neural systems; dayan. (2005)

4. fundamentals of computational neuroscience.; trappenberg. (2009).

5. introduction to neural and cognitive modeling; levine. (2018)

6. demystifying the brain: a computational approach; chakravarthy. (2019).

2014