Tampere University of Technology
Faculty of Computing and Electrical Engineering

SGN-2806 Neural Computation (5 cr)

Examination 19.2.2010 / Ari Visa

1.How does the memory based learning differ from the Hebbian learning?	6p
2. How does a Radial-Basis Function Network work? Describe a Regularized Radial-Basis Function Network. When are you using it? Are there any limitations?	6p
3. Propose, based on the course, a method that is capable to learn and visualize internal states of a process. You can assume that there are lots of unlabeled data available. Describe the method briefly. What are the limitations?	6p
4. Mention one neural network method that is capable to work with incomplete data. Describe how the method works. Why the proposed method is capable to work with incomplete data?	6p
5.Dynamical systems can be described with a state-space model. Recurrent neural networks use a state-space model. Give a simple recurrent network. How the backpropagation algorithm can be used in training of a recurrent network? What are the difficulties in training?	6p