

Neurocomputing: Fundamentals of Computational Neuroscience

Assignment 3 due October 10 in class (15 points)

Read the following chapters in the book for next week

- Chapter 3 (excluding 3.2)
- Chapter 4 (excluding 4.2)

and answer the following questions

1. What is the coefficient of variation for an IF neuron driven by constant input? (2)
2. Simulate an IF neuron (see program [if_sim.m](#), Table 12.6) and derive an experimental curve for its gain function that shows the firing rate versus the external current (see figure 3.3 for a theoretical curve.) (8)
3. Discuss briefly the relation of a sigma node to biological neurons (hint: think about the reason why the sigma node is described in the chapter on neuronal networks). (5)