**Exercise 6 – questions**

1. What is a neuronal avalanche? (4 points)
2. Which quantity has been proposed as the brain’s primary control parameter within the “critical dynamics” framework? (3 points)
3. Assuming that the brain or a brain region exhibits bistability, how would the two “modes” differ, and what would be similar for them? (4 points)
4. Give 3 examples of observables in brain imaging data that have a dimensionality of at least 4, and name/describe the individual dimensions. (6 points)
5. How can machine learning methods help when you want to inspect high-dimensional data? (4 points)
6. What is the problem of “multiple comparisons”? (6 points)
7. Describe some ways in which artificial “neurons” in machine learning differ from actual neurons in the brain. (6 points)
8. Which anatomical observable from individual subjects is used commonly as input to personalized large-scale computational models of the brain, and how? (6 points)
9. What are proposed benefits of using “digital twin” models? (6 points)
10. What are intended advantages of using multi-layer computational models? (6 points)