1. In wich brain area, cell receptive fields are best described by linear spatiotemporal filters followed by some nonlinear mechanism?
2. Primary visual cortex (area 1)
3. Prefrontal cortex
4. Posterior parietal cortex
5. Hippocampus
6. None of the above
7. In visual neuroscience, it is widely held that visual brain areas are organized into:
8. One hierarchical visual pathway
9. Two hierarchical visual pathway
10. Three hierarchical visual pathway
11. One nonhierarchical visual pathway
12. Two nonhierarchical visual pathway
13. What is the main problem that the ventral visual pathway must solve?
14. Select objects in the visual scene relevant to behaviour
15. Recognize objects regardless of changes in perspective, distance , and lighting
16. Transform visual objects into motor responses
17. Balance exploration and expploitation properly
18. Solve the conflict between incompatible responses
19. An efficient model for doding from neural data (i.e, from IT cortex) is:
20. averaging across cell responses
21. using a classifier-based (i.e., SVM) readout technique
22. using fireing rate of individual cells
23. studying the effect of selective brain lesions
24. none of the above
25. to provide a reliable model of the primate visual system, neural networks models of high ventral areas should:
26. exhibit object recognition comparable to primates
27. predict nerual actvity in late visual areas
28. predict neural activities in early visual areas
29. exhibit object recognition behaviour and predict neural activity across the whole visual pathway
30. none of the above
31. cnn model’s intermediate layers are higly predictive of nerual responses in:
32. retina
33. lateral geniculate nucleus
34. primary visual cortex
35. area v4
36. area IT
37. results in computatinoal neuroscience indicate that recognition of challenging visual images(images that take longer oto recognize) relies heavily in:
38. any artificial neural network
39. feeforward neural network
40. unsupervised neural network
41. recurrent neural network
42. non of the above
43. recent evidence (minh et al, science, 205) indicates that deep q network
44. fails to performa t human level
45. performs at human level with just 2 hours of training
46. performs at human level but only after 24 gours of training
47. performs at human level after 900 hiurs of training
48. none of the above
49. current evidence in neuoroscience revelas that dopamine signals:
50. depend only on reward unexpectedness
51. do not reflect a model of the task(purely model free RL)
52. depend on omitted reward, regardless of wether is predicted or not
53. in certain situations, maya lso reflect the task rules or context(model-based RL)
54. none of the above
55. the successor representation hypotesis holds that dopamine singals encode:
56. reward prediction error
57. sensory prediction error
58. motor prediciton error
59. punsihment prediction error
60. none of the above