Chapter V Adventures into terra incognita: probing the neural circuits along the ventral visual stream

V.1. About neocortex


V.2. Connectivity to and from primary visual cortex


V.3. The gold standard to study neural circuits


V.4. Neurons in primary visual cortex respond selectively to bars shown at specific orientations


V.5. Complex neurons show tolerance to position changes


V.6. Nearby neurons show similar properties


V.7. Quantitative phenomenological description of the responses in primary visual cortex
V.8. A simple model of orientation selectivity in primary visual cortex


V.9. Many surprises left in V1


V.10. Divide and conquer


V.11. We cannot exhaustively study all possible visual stimuli

(Bondar et al 2009, Kreiman 2019, McMahon et al 2014)

V.12. We live in the visual past: response latencies increase along the ventral stream


V.13. Receptive field sizes increase along the ventral visual stream

(Freeman & Simoncelli 2011, Kobatake & Tanaka 1994, Rolls 1991)

V.14. What do neurons beyond V1 prefer?

V.15. Brains construct their own interpretation of the world: the case of illusory contours


V.16. A colorful V4


V.17. Attentional modulation


V.18. References


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