

Cortical columns for quick brains

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It is widely believed that the particular wiring observed within cortical columns boosts neural computation. We use rewiring of neural networks performing real-world cognitive tasks to study the validity of this argument. In a vast survey of wirings within the column we detect, however, no traces of the proposed effect. It is on the mesoscopic inter-columnar scale that the existence of columns - largely irrespective of their inner organization - enhances the speed of information transfer and minimizes the total wiring length required to bind the distributed columnar computations towards spatio-temporally coherent results.

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