Stanford

Pankaj Gupta

Postdoctoral Scholar, Neurosurgery

Curriculum Vitae available Online

Bio

BIO

Pankaj Gupta is a postdoctoral researcher at Stanford University working at the intersection of systems neuroscience, neuroengineering, and computational modeling. His research focuses on understanding how distributed neural circuits generate behavior and how these circuits reorganize during learning and recovery, particularly in the context of motor control and neurological disorders such as stroke.

Pankaj completed his Ph.D. at the University of British Columbia, where he investigated brain–behavior dynamics using widefield and two-photon calcium imaging in mice. His work combined experimental neuroscience with real-time closed-loop systems, enabling the modulation of neural activity through behaviorally contingent feedback. He also developed computational tools and biologically inspired recurrent neural network models to capture large-scale neural dynamics and inter-regional interactions.

At Stanford, his research expands to include large-scale electrophysiology using Neuropixels probes to study cerebellar and subcortical circuits involved in motor control and recovery. He is particularly interested in how neural populations across multiple brain regions coordinate and adapt following injury, and how these insights can inform the design of closed-loop neurostimulation and brain–machine interface systems.

STANFORD ADVISORS

- Spyridon Karadimas, Postdoctoral Faculty Sponsor

LINKS

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