# Structured Knowledge Accumulation: Geodesic Learning Paths and Architecture Discovery in Riemannian Neural Fields

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**Abstract**

The Structured Knowledge Accumulation (SKA) framework redefines neural learning as a process of entropy-guided knowledge organization. This paper extends SKA to continuous neural fields using Riemannian geometry, introducing *Riemannian SKA Neural Fields*. By modeling the neural medium as an information manifold with a metric tensor encoding entropy and density gradients, we enable knowledge propagation along geodesics, balancing information structuring with spatial heterogeneity. This approach generalizes the entropic least action principle to spatially continuous systems, unifying architecture discovery with learning through entropy minimization, and offering a biologically plausible and computationally efficient paradigm for adaptive learning. We employ finite element methods and discrete exterior calculus to implement the framework, establishing theoretical foundations for scalability to higher-dimensional spaces. This work bridges information theory, differential geometry, and neural computation, opening new avenues for real-time, resource-efficient AI systems.