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EdgeAI: Edge-Native Distributed Platform for Artificial Intelligence

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Edge computing, together with soon-to-come 5G technologies and future 6G vision, enable distributed computing platforms with computational and data resources in the close proximity to the users/clients with low-latency connections. Traditional data flow in the Internet of Things is vertical, spanning from the data producing resource-constrained devices, through the network infrastructure components, to the cloud. Edge computing adds the middleware for distributed application-driven processing. However, distributing control, computations and data both horizontally and vertically, within and across system architecture layers, are yet to be considered. At the same time, novel artificial intelligence (AI) and other data-driven applications demand intelligent management of both trustworthy computational power and massive amounts of application-specific data. Our research aims to bring together these deeds. We set a vision for an edgenative, both vertical and horizontally distributed interoperability computing platform for AI. Our work targets applications and services with autonomy, context-awareness, reactivity, proactivity, and learning capabilities.

