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## Architecting Artificial Intelligence Integration to Distributed Transactional systems using CNTK<sup>2</sup> and RPC Google Protocol Buffer Framework - GRPC<sup>3</sup>

Samir Touzani<sup>1</sup>

### Abstracts:

Integration of Artificial Intelligence solutions to existing distributed transactional systems is the problem that this paper address. Distributed transactional systems presents many challenges of AI integration like performance constraint, technology's heterogeneity from Artificial Intelligence solutions stand point, various architecture styles and so on. Therefore, this paper presents, first of all, the limitations of existing architecture styles for transactional systems like ,Middleware, WEB API, CLOUD, RPC, old technologies,....., facing AI integration. Then, I will present the outline of the target requirement architecture from applications, data and technology layers. After this, I will present in detail the proposed solution based on CNTK and Google Protocol Buffer as effective solution for the stated requirements for AI integration to distributed transactional systems. Finally, I will show the benefits of AI integration to transactional systems beyond client requirements like setting the base of whole process mining.

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<sup>2</sup> Microsoft Cognitive ToolKit

<sup>3</sup> High-performance, open source universal RPC framework

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