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**Title:**

Event-based Machine Learning Visual Analytics for BlockChain Pattern Exploration

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**Abstract:**

Existing and potential users are exploring how to integrate and streamline BlockChain technology into different business processes, financial services, and other applications. BlockChain technology offers opportunities to replace traditional business rules but also raises a great number of unanswered questions. This research mission lies in the good understanding the nature of digital currency and block-chain, and in investigating underlying reasons behind block-chain transactions, and in identifying the relationships between different factors, which may impact transactions or events. To meet the challenges, we propose to develop a collaborative visual analytics platform supported by explainable machine learning. The proposed system should have the ability to integrate heterogeneous data on the same platform, including transaction data, news data, and financial data etc. Specifically, the approach should achieve five capabilities, 1) Identifying nodes, chains, and blocks; 2) Comparing and investigating blocks and events 3) Exploring correlations between events 4) Discovering the potential factors impacting events, casual-effect analysis 5) Replaying for validation. We will introduce novel interactive visualization methods in the system supported by machine intelligence machine, to assist users in exploring and investigating the journey of blockchain based on heterogeneous data, through interactive visual exploration.