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Post EIP-1559 Ethereum Base Fee Prediction

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ABSTRACT

Blockchain is a shared, immutable ledger that facilitates a way to record transactions and Smart contracts are tools that can automatically execute transactions if certain conditions are met without requiring the help of an intermediary entity. Ethereum is a decentralized, open-source blockchain with smart contract functionality. There is always a price that the user needs to pay when executing transactions in a public ethereum network and this cost depends on the complexity of the transaction and the network traffic which is always varying. EIP-1559 is a transaction pricing mechanism that was introduced to Ethereum 1.0 in the hopes of reducing the volatility in transaction cost but not completely eradicating it.

The purpose of this research is to overcome the uncertainty in transaction costs when interacting with Ethereum blockchain and thus reducing the overall cost borne by the users when executing transactions in Ethereum network by predicting future transaction costs in real time using regression techniques.

Key Words: Blockchain, Ethereum, Regression, Machine Learning, Real time prediction