

Applying NoSQL solutions for Stock Market Prediction using Neural Networks

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Abstract

Historically speaking, the database systems over the last 20 years had a rapidly increasing evolution; however, it was not until recently that databases systems and their storage model attracted a surprising amount of attention as new fundamental business needs emerged. Companies around the world placed their data systems at the centre of the business and had the need to customise their database architectures on tailored business needs and specific requirements that different industries require.

Under the above circumstances, the new technologies developed significantly fast in order to cover these needs. These new models managed to introduce innovative solutions, distinguish themselves from the traditional row storage systems and challenge the existing technologies with their excellent performance, fault tolerance and speed.

Nowadays, these much debated databases have extended use for commercial solutions and are trusted by companies on their core functionality which is based on these new data storage methods; one such example is Cassandra which is used by JP Morgan, Facebook and Netflix while Voldemort is used by LinkedIn while some of them are well known at the academic community: Hadoop.

The exciting part about this technological innovation is the flexibility and the versatility that was added. Exactly because of the new capabilities and the increased competition, we had as a consequence the increased number of new solutions that are now available at the data storage market.

This project will implement a proof of concept solution on one of these novel databases, along with a number of additional features in order to present a number of alternative functionalities and how they can be used in order to upgrade already existing systems.