Riskfuel

COMPANY OVERVIEW

Riskfuel is a Fintech company founded by Ryan Ferguson in 2019. Riskfuel works with capital markets firms who use very slow, complex models to calculate the value of their derivatives portfolios. Riskfuel trains deep neural networks to imitate the conventional models and return results a million times faster, so that what once took hours to run, now runs in seconds. This gives traders full and timely insight into their portfolios as market conditions change.

LOCATION: TORONTO, ON

TECHNOLOGY

Data Centre and Cloud

Marian Ferguson, CAO

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VOLATILE CAPITAL MARKETS CONDITIONS

Riskfuel develops fast valuation and risk models for capital markets by training deep neural networks (DNN's) to imitate the conventional models. Capital markets derivative portfolios use simulation models to predict pricing and risk that are so computationally intensive they need to be run in a nightly batch across thousands of servers. The resulting prices and risks which reflect the market conditions at the close of business, are used by traders the following business day. In volatile conditions, traders with access to timely valuations and risk sensitivities calculated with the current market values have a substantial advantage.

ACCELERATING VALUATION MODELS WITH ARTIFICIAL INTELLIGENCE

Riskfuel developed machine learning technology to accelerate valuation models a million-fold. This is accomplished by creating an artificial intelligence (AI) version of the bank's conventional model that is just as accurate but much, much faster. Riskfuel's AI model calculates valuations and risk sensitivities that reflect market conditions as they change from second to second. This gives traders access to real-time pricing, risk management tools, and a huge competitive advantage for their firms.

UNDERSTANDING SERVER CAPACITY AND TESTING SCALABILITY

On the CENGN Testbed, Riskfuel developed a process to dramatically speed up training of their neural network models and allow them to better handle the emerging demand for their product and take on more customers. They performed technical tests to understand the optimal configuration of key parameters and environmental factors needed to create maximally efficient data storage solutions. Following this project with CENGN, Riskfuel understands how to add new machines to scale up their storage solution while maintaining maximum throughput and capacity. This allows them to scale their storage needs as their operations expand.

"Through our work with CENGN, we've developed a process which will dramatically speed up the training of our neural network models. Because we can train faster, we can better handle the emerging demand for our product."

Marian Ferguson
Chief Administrative Officer, Riskfuel