

BIG DATA & ALGORITHMIC FINANCE



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Iryna Veryzhenko-Leboeuf defended her doctoral thesis in market finance at the IAE of Paris I Panthéon-Sorbonne (co-directed with the Fundamental Computer Science Laboratory of Lille I). In 2011, she worked as an A.T.E.R at the École Nationale des Arts et Métiers in Paris. In 2012, she joined the École Supérieure de Sciences Commerciales d'Angers as an assistant professor in quantitative finance. Since September 2013, she has been working as a lecturer at Cnam Paris.

DETECTING SPOOFING IN HIGH FREQUENCY TRADING USING MACHINE LEARNING TECHNIQUES

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This study focuses on spoofing detection in high frequency trading using machine learning techniques. The primary goal of this study is to explain how effective these techniques are in detecting manipulative orders within real-world order books updated at microsecond time grain. To conduct this research we use a supervised learning algorithm for classification, k-nearest neighbors (KNN). The outstanding feature of this study is a combination of research approaches: agent-based modeling and a rich empirical study. We use order books from the artificial financial market, which guarantees a perfect traceability of the actions of its participants, to train the algorithm, then we apply it to empirical order books from the Euronext stock exchange. Findings indicate the KNN algorithm demonstrates robust detection capabilities, albeit exhibiting sensitivity to the nuances of the training data.

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