THE UNIVERSITY OF CHICAGO | **DEPARTMENT OF STATISTICS**

Master's Thesis Presentation

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"Forecasting Gamma Squeezes in GameStop Stock"

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Abstract

Options market makers with large short gamma positions can induce gamma squeezes, or sharp, self-reinforcing surges in option related hedging activity. This paper uses a machine learning approach to predict the occurrence of gamma squeezes in GameStop, one of the most relevant examples of meme driven, retail led volatility spikes. We develop a novel threshold to identify gamma squeezes and train a set of imbalance aware classifiers. While the models demonstrate modest predictive power, the results are best viewed as a potential early warning system for market makers looking to manage short gamma risk, rather than a recommendation for directional trades. Finally, we discuss how higher frequency intraday data, more granular option chain metrics, and alternative data sources such as social media sentiment information could further enhance model performance.