The World of Mathematics and Statistics

Math/Stat Colloquium

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Ponzi Prevention: Using Statistics to Uncover Investment Fraud

I am a Financial Economist in the Division of Economics and Risk Analysis (DERA) at the Securities and Exchange Commission. DERA employs about 130 economists, statisticians and data scientists to assist the SEC in making rules and preventing irregularities, ensuring orderly, efficient and fair financial markets.

In this talk, I will describe how statistics can be used to help understand investment funds which may report their performance publicly but which may not necessarily want or have to report the assets which result in that performance. I will begin by explaining regressions and their use in computing commonly used financial metrics. I will expand that to a technique called Dynamic Style Analysis which uses optimization to suggest the likely composition of a fund as a linear combination of investment indexes. Comparison of our suggested composition with the published description of the fund assists the SEC in determining candidates for in-depth examination and can help uncover fraud.

Tuesday, October 29
SC 199, Refreshments 4:15pm, Lecture 4:30pm