

Title: **WHAT IS META-MACHINE LEARNING?
AUTOMATIC PROGRAMMING OF TRADING STRATEGIES?**

Speaker: David Andre, Cerebellum Capita

Importance: Why this matters

Author proposes a multi-level machine learning process for automating the role of the data scientist and the investment committee, allowing for the discovery and combination of investment strategies that utilize advanced machine learning techniques.

Investigation: "Speaker analyzed XXX data to address the questions yyy, zzz, etc."

Andre identifies several challenges in applying machine learning to investing:

1. Important correlations of financial assets.
2. Spurious correlations abound.
3. Random signals might look surprisingly good.
4. Non-stationary relationships but only one history)
5. "Time-traveling" is easy and dangerous in back testing.
6. A tendency toward trial-and-error tweaking leading to overfitting.
7. Data scientists are expensive!

Innovation: Are there new techniques of interest in the data or approach to the problem?

Samples of analytics:

1. Split regression, adding and removing variables seeking for optimal balance.
2. Crossover network structures via "growth" functions.
3. Automatic machine learning to add or reduce variables, even change the machine learning process itself.
4. Use of Bayesian optimization techniques for choosing possible future paths.

Insights: 1-2-3, what are the three most important things the speaker offered?

1. These new techniques have been applied successfully to solve complex board games, driverless cars, image recognition. There should be successful approaches to financial problems.
2. This work needs to be carefully done, and involves partnership with data scientists who bring in a whole new skill set and jargon. It will be time consuming, exploratory, and expensive.
3. Andre and his associates are bringing out a find that applies these ideas.

Audience rating: