Disruption in Portfolio Management = Tech + Data

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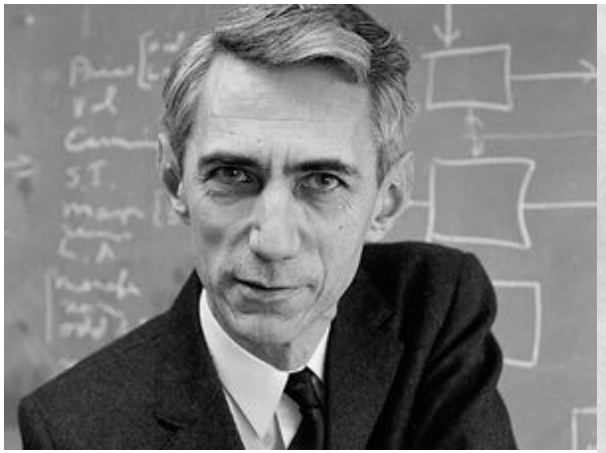
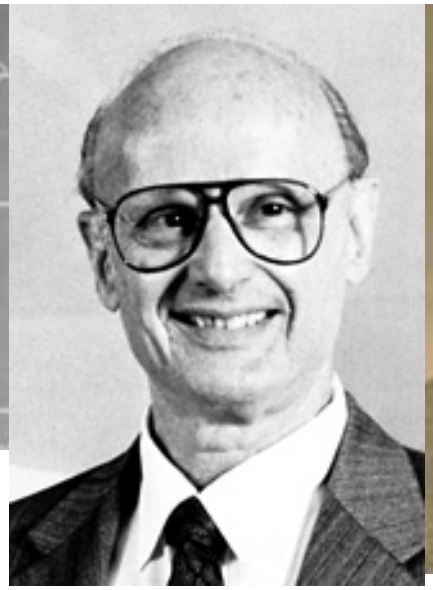
Where is the next ‘disruption’ happening?

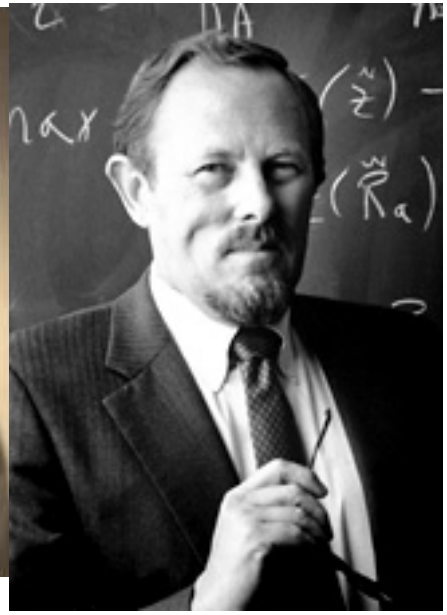


Shannon 1948
Information in a channel



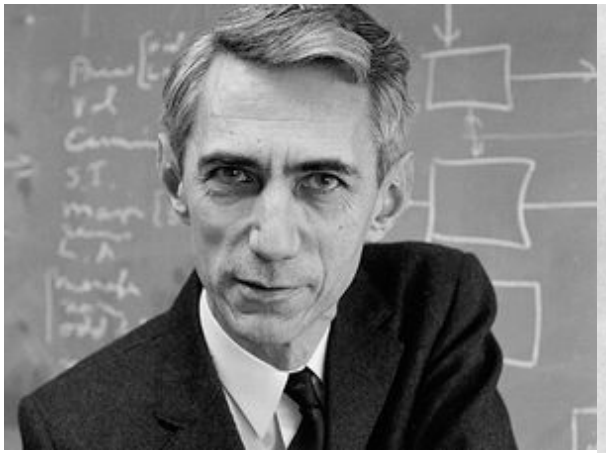
Markowitz 1952
(Single period) Mean Variance and Correlation base Optimization

John Kelly 1956
Optimal bet sizing in a multi-period game



William Sharpe 1962
CAPM and Sharpe Ratio

It’s always one baby step at a time



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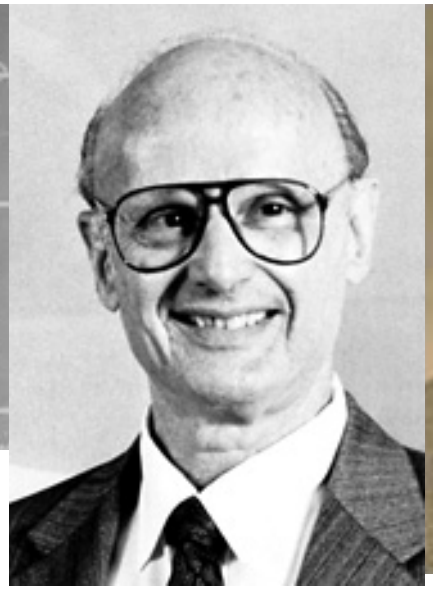

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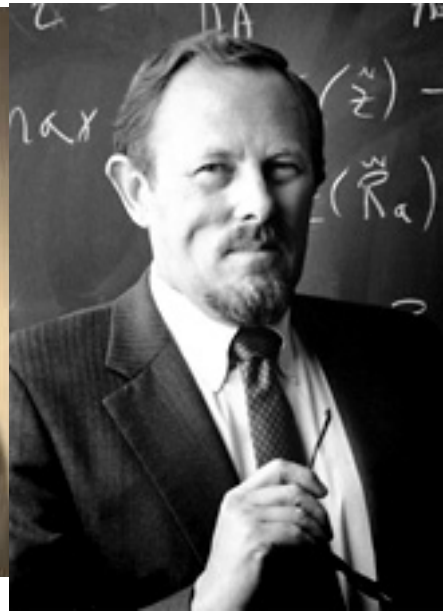

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It’s always one baby step at a time

Yet, it takes years to make a leap…

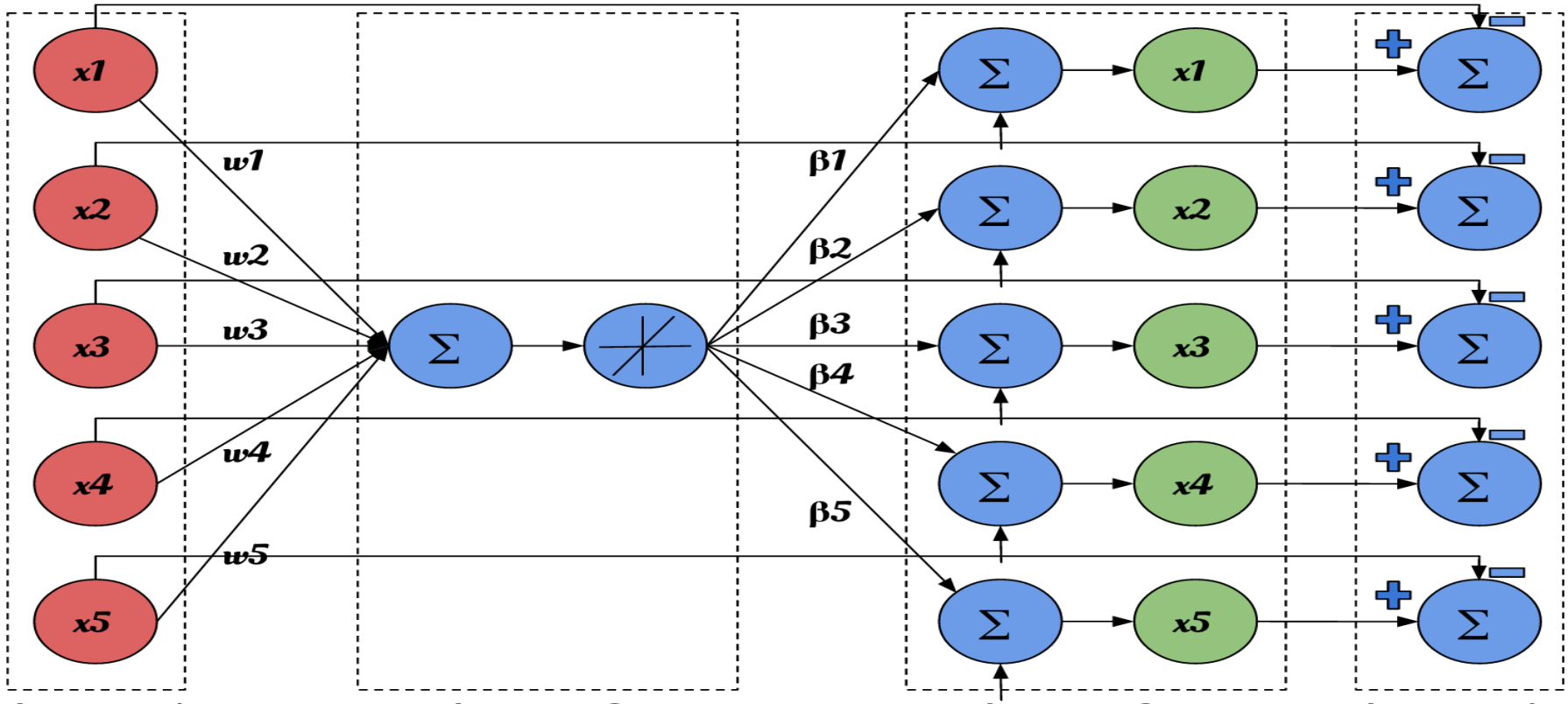
Vincent (left) and Stephen Della Pietra

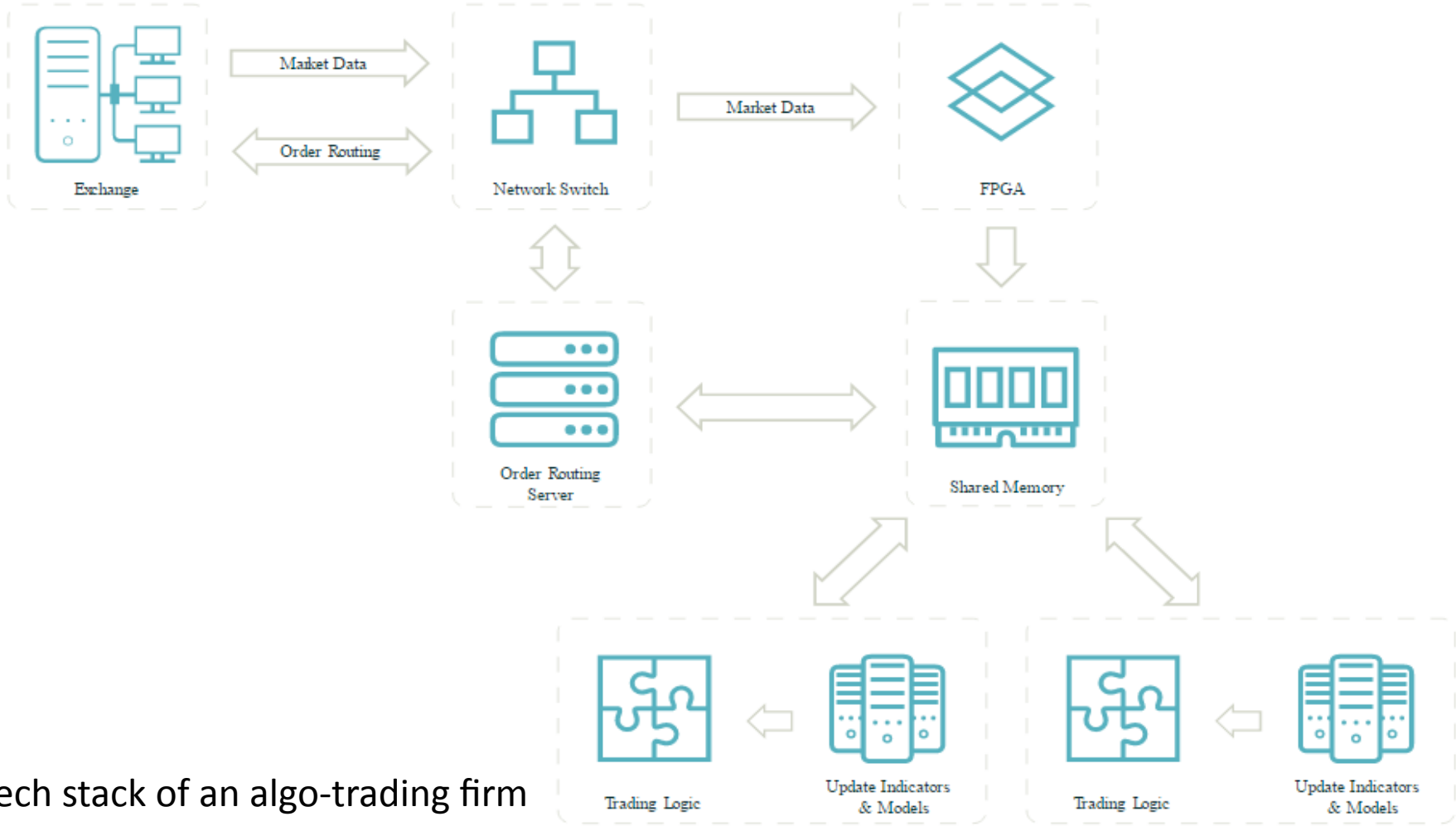
Thomas Cover – Universal Portfolios

Antti Ilmanen
Research in Expected Returns

People like Peter Muller and Dennis Stattman whose real work isn't published but they have made great advances in the field and who have shaped the thinking of others.

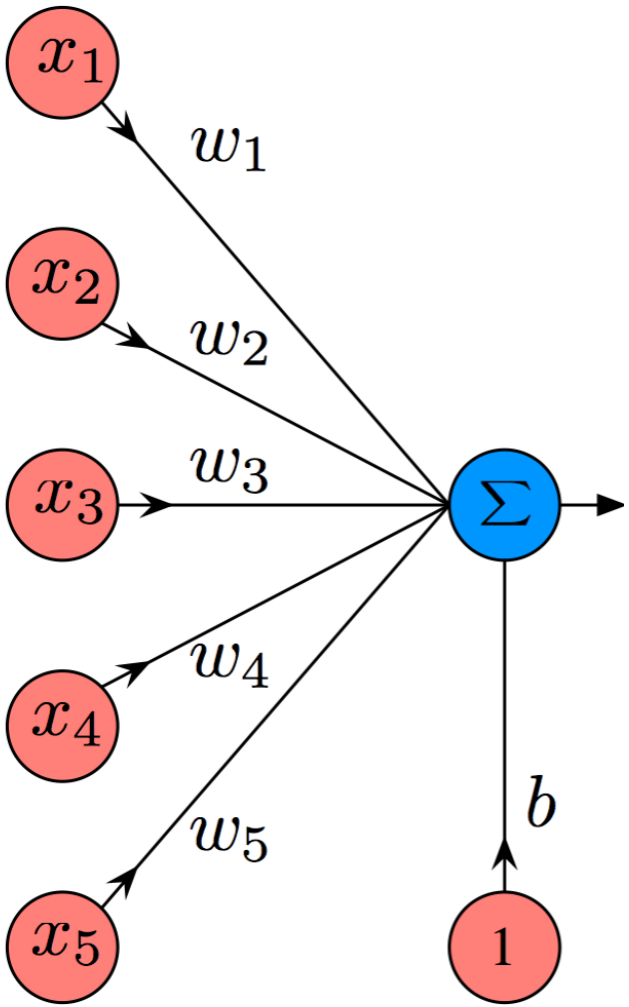
Every lasting improvement in finance has been about learning-from-data and technology


x1
x2
x3
x4
x5
w1
w2
w3
w4
w5
Σ
β1
β2
β3
β4
β5
x1
x2
x3
x4
x5
Σ
Σ
Σ
Σ
Σ
Σ
Σ
Σ
Σ
Σ
Layer 1
(Input layer. These can be the returns of all stocks in the past 10 days)
Layer 2
(Just one node! We have shown it here in two parts to convey the linear sum and the sigmoid activation)
Layer 3
(Train first to be same as input layer to learn {w} and {ß})
Layer 4



Tech stack of an algo-trading firm

Features



Combination of strategies

WHY is the next ‘disruption’ happening?

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The future is fair, it is free, and it is up to us.
gchak@qplum.co