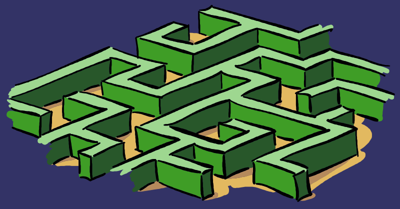
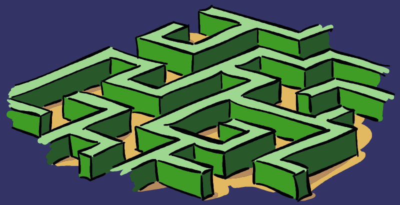
Herd Behavior in High-Frequency Markets

By Hersh Mehta
Benjamin Green**MAN**!



Overview

- What is Herding?
  - Ignore private info. & buy with crowd
- Why it happens?
  - Minimize Risk
  - Supplement private information
- Relevance
  - Exaggerated price movements (bubbles & crashes)
  - Influence general trend
- Prior Works
  - Observed in “traditional” markets (non-electronic)
  - Simplified models for herding based on human behavior



Our Contribution

- Model herding in HFT setting
  - Algorithms still herd
- Use trade volume as main predictor
  - Influenced by VPIN model by O'Hara, Easley, and Lopez de Prado
- Data Source: Interactive Brokers API
  - price/quantity market depth event-driven data (~5ms)