🌟

CDL Session 3

Venture (Deck Information)

1. Decision Problems at Large Scale

- Optimization decision of large financial problems (discrete optimization) cannot be solved with current method

  - (0, 1) for whether to long the stock or not

- Optimizer with quantum annealers

  - Model tuning with Distributed Computing daily

2. Implementation → Benchmark

- Technical differentiator: choosing the right energy(cost) function for the correct market condition to optimize the portfolio.

Objectives (Modified)

1. Onboard the 3 clients who are already waiting to use the product

2. Show that the product can beat the index fund performance

     a. Currently: internal hedge fund client benchmarks

3. Finish applications to the U.S. <u>NSF SBIR</u> grant ($250K USD) to receive more non-dilutive funding.

4. Add an ML-based picking strategy on top of existing systems to help traders make decisions. (Still necessary, maybe less priority?)

Mentor Suggestion

1. Values for adding the machine learning components

2. Show that the model beats the internal benchmark

Decision-Point

1. Make a product that is sufficiently low-cost, for a large group of people

    a. Although charging high-AUM hedge fund client is profitable, it's hard to justify to investors the value this can create on a larger scale.

    b. Look at the potential interferrance for the technology if this is available to day traders:

        i. Market impact

2. Ask the client to potentially pivot the product into a independent fund

Critiquer

1. Charge a fixed amount of fees such as onboarding fees to cover the hiring needs.

2. Priortize onboarding clients

3. What's the justification for adding more features, such as the machine learning pipelines for stock picking?

    a. To decrease risk for the product to ensure that it works

4. Start to use Quantum Hardware, do not depend too much on Simulator such as D-Wave.

5. Raised a question about potential competitor? FORECAST

Deliberation

1. John Francis: They were somewhat distracted creating values for the hedge fund, however, did not satisfy some of the objectives that I asked for in the previous sessions.

2. Paul: They hit all the objectives, they have been beating the benchmarks. It may not be the type of the business some of us vision, but it's still a very successful in its

3. John Martinis:

   a. Great Mentorship

   b. We will continue to work with them. Their optimization idea is great and can go beyond finance. They understand how to fit problems to quantum computing.

- 4. Timur Davis:

   a. Will offer more mentorship, especially opportunities connecting with financial institutions