THE UNIVERSITY OF CHICAGO

Financial Math Project Lab: Assignment Details

* = required field. Please return completed form to Sue Clark at **sueclark@uchicago.edu**

Your organization

1. * Company name (and division/department/desk, if applicable):

   Loomis, Sayles and Company L.P.

2. * Physical address of organization:

   One Financial Center, Boston, MA 02111

3. * URL and/or description of organization:

   https://info.loomissayles.com/alpha-strategies-team

Interaction with the team

4. * How many teams is your organization sponsoring for this project? 1

5. How many students per team? 4 If blank, we assume 5 students per team.

6. * Name, position, and email address of the contact at your organization for the team

   Diqing Wu, Senior Quantitative Analyst, dwu@loomissayles.com

7. Any additional contact information (e.g., information for additional contact persons. Or any background info that you wish to include, e.g. "UC Alum")

   Chetan Shinde, Associate Director of the Systematic Investing Strategies,

8. * Aside from the initial briefing to the team, and the final presentation from the team, how often will the team confer with their contact, to deliver progress reports and receive advice?

   one per week

9. * Will such discussions be face-to-face, or by some form of teleconferencing? If face-to-face, will the meetings be all on-site, or all on-campus, or some other arrangement?

   through teleconferencing

10. * During the time period when the project work is ongoing, will the student team members have the status of unpaid "interns" at your company?

    yes

11. * Will the student team members be required to sign non-disclosure agreements?

    no

Project description

12. * Project title:

    entropy-based approach for regime rotation and return prediction

13. Background motivation of project:

    The motivation of this project is to research and implement an entropy-based approach for regime rotation and predicting asset return.

14. * Skills required (e.g. programming languages / software packages / statistical procedures):

Python/MATLAB

15. * Project objectives or questions to be investigated:

The major objective is to
1) build an algorithm using entropy metric as signal to predict trade different assets.
2) create an entropy-based apporach/signal to detect regime change and to be used for guide asset/strategy allocation

16. Implementation details:

17. Reference materials, if any:

https://www.pm-research.com/content/iijinvest/23/3/130
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7597144/
https://www.sciencedirect.com/science/article/abs/pii/S0304407601001257
https://citeseerx.ist.psu.edu/document?

Other

18. Any additional comments: