

## **MS&E 448: Final paper guidelines**

Please write a detailed report 10-15 pages long in L<sup>A</sup>T<sub>E</sub>X format. Below are some suggestions of issues to include in your report.

### **Brief description of your strategy**

Which instruments are traded, what is the time horizon of the forecast, the holding period of your trades. Expected Sharpe ratio.

### **Data**

What problems did you find with the data? What work did you do to address these problems?

### **Investment Universe Selection**

How did you choose which instruments to include in your trading universe?

### **Modeling**

What techniques did you use to model the data? Did you find stable predictable patterns? How many parameters do you have in your model and what methods did you use to optimize them? Describe any in-sample out-of sample techniques used. In building the model, what did you look at to assess the goodness of the model?

### **Alpha Model**

Ultimately, what is your source of alpha? What is the intuition behind this do you think? Do you have any conditioning variables on your model? What are your entry and exit criteria? Are you making directional or relative bets? How do you group instruments together for relative bets? Why? If you are combining several different signals, how did you do this, and why did you do it that way?

### **Portfolio Construction**

How did you size the instruments? Do you have any constraints on maximum position size? Do you utilize correlation structures? Did you use an optimizer? Did you penalize transaction costs in your optimization? Why did you do things the way you did?

### **Risk Management Philosophy**

How do you assess the risk in your strategy? Did you measure this in any way? How do you control for big losses? Inherently, what are the biggest risks in your strategy?

### **Execution Discussion**

If you were to really trade your strategy, how would you execute it in the market? What would be the biggest challenges? How could you estimate or model these execution issues in your simulations?

### **Retrospective Discussion**

A free form section for a retrospective on the project. What you think you have learnt, the areas you found most challenging, what is left to do if you could continue with the project and so on!

**HAVE FUN AND WORK HARD!**