Computational Biology: Assignment #0

Due on Monday, Feb 24, 2014

Jianyang Zeng 1:30pm

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Problem 1

- What is your educational background?
  I am a CS and Economics double major student with an overall GPA placing me in the top 10 in Yao Class. To pursue higher-level quantitative training, I have completed extra mathematics courses (i.e. differential equations, stochastic process, and time series analysis). Additionally, I believe my research experiences in mechanism design (i.e. game theory, stock mechanism) and machine learning for trading (i.e. KNN, Random Tree) have succinctly prepared me to succeed in related stuffs in this course. Over the last six months, I attended Georgia Tech as a visiting student, and also worked at a hedge fund in US, where I was essentially creating automatic trading strategies utilizing machine learning algorithm and advanced statistics.

- What courses or research that you are currently doing?
  Research in machine learning related to economics and finance, as well as computational economics advised by Prof. Pingzhong Tang. For courses, I'm taking statistics and doing undergraduate thesis.

- What are your long term goals?
  Quantitative researcher, specifically, research in machine learning for financial trading.

- What research that you have performed in the past? And what you expect to do in the future?
  Research on Game Theory: established a new mechanism for foundations of game theory by introducing in a self-blind strategy, proved possibility of higher return with less information, tutored by Pingzhong Tang. My expectation for the future has been explained in long term goals.

- Why you are taking this course and what you expect to learn from this course?
  The first reason is to gain credits to graduate, the second reason is to try apply machine learning and statistics in another field, so as to gain some similar but different ideas for my application to finance. I expect to learn more sophisticated machine learning model and gain biology basic background.

- Any suggestions on materials that you would to suggest the instructor to cover in the classes?
  As a student studying in CS, I expect we do not need to focus too much in biology, hopefully instructors could dig out the mathematical problem from the application, then we can concentrate on computer science or mathematical problem. This is just a personal suggestion. (I have to admit that I don't have much interests in biology.)

- Any particular topics that you might like to do in the final project?
  No ideas currently, but expecting to research on well-formulated problems related to machine learning algorithm.