

Computational Systems Biology

Deep Learning in the Life Sciences

6.802 6.874 20.390 20.490 HST.506

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Lecture 12

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Project Overview



<http://mit6874.github.io>

Project Dates

- Request to complete 6.874 with a team project: April 2th, 11:59PM
- Proposals due: April 11th, 11:59PM
- Proposal discussions: Week of April 13th – April 20th (there will be a web sign-up for times)
- Project report due: May 9th, 11:59PM
- Certain projects will be asked to present to the class May 14th and 16th during normal lecture times.

Team Responsibilities

- Make clear before you start what the division of labor will be.
- Make clear in the written report what the division of labor actually was (it's fine if it deviates from the proposal, but it must be specific and accurate).
- Be sure that all participants understand all of the work.
- Projects done by n people will be expected to have n times as much technical depth and content as those done by a single person. For joint projects, the written work may be done jointly.
- Be sure to cite all papers and web sites consulted during the course of your project, as well as to acknowledge others who helped you.

Project Report

- Document of about $4n$ pages in double column conference format, where n is the number of people in your group, including whatever
- Graphs and tables that are necessary to make your point.
- Emulate the expository style of a technical conference paper.
- Previous work should be referenced in your original proposal, so you do not need to duplicate that in your final report.

Project Proposal

- 1–2 pages long, outlining the work to be done.
- Background on previous work in area
- Plan with at least 4 intermediate milestones
- Internal deadlines for each step.
- Team members - responsibilities should be made clear.
- Risks - what things do you think might turn out to be more difficult than planned, and what thoughts do you have about how to mitigate the risks?
- Interview for proposal will be scheduled with TAs

Project ideas

Comparing different methods for a problem

Apply a technique to new problems

Propose new method or variation of existing methods

- Compare different approaches to predicting the effects of eQTLs using the CAGI 2016 data.
- Evaluate different methods of predicting the DNase-seq/ATAC-seq measured accessibility of the genome.
- Evaluate different experimental design methods for the TF k-mer binding data.
- Produce a method to predict functional genomic variants.
- Check out the DREAM challenges (<http://dreamchallenges.org>) for further ideas for projects on computational biology.

FIN - Thank You