Cancer Bioinformatics (Spring 2015)

Biostatistics & Medical Informatics 826 / Computer Sciences 838

Project Report and Presentation Guidelines

Project Report

Project reports should be written in the style of a Bioinformatics journal article. Word and LaTex templates are available here. You do not need to follow the article guidelines imposed by the journal. Reports will be graded based on content rather than length, but 4-7 pages is a reasonable length range. A well-written 4 page paper is preferable to a rambling 7 page paper.

Strive to identify a specific conclusion and use your results to build support for your conclusion. Your ability to do so will make up a major portion of your project report grade. Positive or negative results are equally acceptable; it is fine if your data do not support your initial hypothesis. Avoid reporting inconclusive results if possible. If you must, use the Discussion to explain why the results are inconclusive and propose additional tests you could hypothetically perform to arrive at a definitive conclusion.

Your report should be written with class members as the intended audience and can assume that the reader is familiar with the papers we have read in class. Specific sections include:

Abstract: Provide a one paragraph overview of the problem you studied and your results.

Introduction: Introduce and motivate the problem you selected by providing relevant context in terms of challenges in cancer and related computational work. State the hypothesis of your project clearly and preview whether your conclusions support or refute this hypothesis.

Methods: Describe your approach and data analysis. Include sources of data, third party methods you used, and new algorithms you implemented as applicable. Include details that are necessary for reproducing your results such as parameters used and how you selected them.

Results: Describe the outcome of your analyses. When you describe quantitative results, figures, or tables be sure to explain how they provide evidence for the conclusions you have drawn. Place any biological predictions in the context of previous papers we have read in class and/or biological literature.

Discussion: Summarize the results of your study. This section can include potential future work and/or discussion of why your final project deviated from your initial proposal.

Contributions: Describe in detail which group members contributed to which analyses. These can include percent effort assignments if multiple group members contributed to individual tasks. You may use a tabular or list format.

Figures and Tables: Reference all figures and tables in the text and provide informative captions. Be sure that figure annotations are large enough.

References: Use an author-date citation style and provide citations to related work, data sources, and relevant biological literature. You may include URLs as either references or footnotes.

Appendix: Include all code used in your data analysis as an appendix to your report along with a README file describing the files and how they are used.

Project Presentation

Project presentations will take place on May 7. Each group will have 20 minutes for their presentation, including 3-5 minutes for questions. Each group member should present for an approximately equal amount of time.

Presentations should follow the format used for regular paper presentations during the semester: motivate your research, explain your methods, and present your results in a manner that supports your main conclusion(s).