Final Projects

MPCS56420 Spring 2020

Design, implement, evaluate “**something**" in field of bioinformatics.

While this may sound vague it is purposeful to allow you to explore whatever corner of bioinformatics you found most interesting. You may explore any topic we have touched on in class (or even something you stumbled upon) from some of the resources. While you are not required to have a project that requires significant “coding”, you should be looking to leverage your skills as a computer scientist in your project.

Requirements

The following are required for all projects:

Executive summary

Write a one paragraph summary of your project. This should be a summary of your entire project, including the results, written for a non-scientific audience.

Project Write-up

Complete a write-up of you final project that follows the format of a scientific publication. Consider how you might utilized images and/or graphs to convey your research. Scientific writing is succinct and direct so limit the entire write-up to two pages maximum.

Include the following sections and consider the questions as information you may want to include.

- Introduction
  - What is the problem?
  - What is important about this topic?
  - What are you going to do?

- Background
  - What is the history of this topic?
  - If this is an approach or methodology, what is the current state of the art?

- Methodology/Approach
  - What did you do?
  - How did you do it?

- Results
  - What did you find out?
  - Did your project work? Why not?
  - Not getting the results you anticipated is not a “failure”. This information is equally important. Feel confident to report any results you received.

- Discussion
  - How will this help the field?
  - What would you do different with more time/resources?
  - Is this better than other reported methods?

- References
  - Include all references in MLA format.

Code

All code should be well-documented and compile and run without errors. Please include a detailed `README.md` file that provides instructions on compiling and running your software. Include a prepared example to run (including all files) with instructions. If there is a web server, provide the hosted URL along with the code.

Deliverables

Projects will have different deliverables beyond the requirements listed above. Please discuss the specific deliverables for your project with the instructor on an individual basis.

Commit everything to your GitHub repository (write-up, summary, slides, code, etc.). Please provide a `README.md` file that provides information on included files and how to run any code.

Presentation

You will have 10 minutes to present your final project in class. You should convey the important elements in your write-up in your presentation: Introduction,Background, Methodology/ Approach, Results, Discussion and References.