

EECS 730: Introduction to Bioinformatics Final Project

You are expected to select one of the following topics (or any bioinformatics-related topics that you are interested in; please contact instructor for consent), independently conduct literature study, and write a mini-review on the topic. The mini-review should have **no less than 3,000 words**. You are welcome and encouraged to discuss with the instructor regarding the final project anytime throughout the entire semester.

The mini-review is due on **May 14th, 2021 11:59PM**. Please submit your mini-review (in PDF or MS Word format) via the Blackboard System. It counts for **40%** towards the final grade.

Below is a collection of topics for the final project:

(Again, notice that you are allowed to select another topic if none of the following topics interests you; please contact the instructor for consent if you wish to choose an alternative topic.)

- Stochastic context-free grammar and RNA secondary structure modeling
- RNA 3D structural motif search and clustering
- RNA-RNA interaction prediction
- RNA-protein interaction prediction
- Sequence motif finding problem
- Phylogenetic reconstruction
- Burrows-wheeler transformation (BWT) in fast sequence alignment
- Genome-wide association study
- *De novo* sequence assembly
- Epigenetics and CHIP-seq
- Chromatin structure determination and functional implication
- Metagenomics and metatranscriptomics
- Biological pathway and network analysis
- Mass spectrometry and proteomics
- Gene ontology

Evaluation:

- Whether the information is correct and complete
- Whether the information is up-to-date
- Whether the information is disseminated in a concise and logical way
- Whether previous work is properly cited
- Whether the figure and table illustrations are straightforward and artistic
- Whether the formatting of the review is proper and tidy
- Whether small errors/typos are present

Please send email to instructor at cczhong@ku.edu to reserve your topic by **Mar 19th, 2021**; topics are assigned first-come-first-serve. Please entitle your email with **“EECS 730 final topic preference”**. If I did not receive your preference by the time, a random topic will be assigned to you by **Mar 22nd, 2021**.