Spring 2022

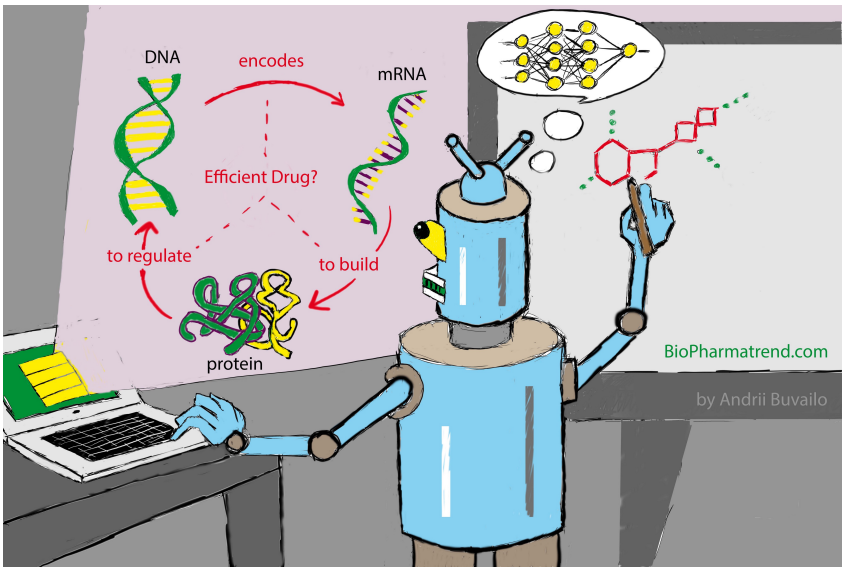
ECEN 766

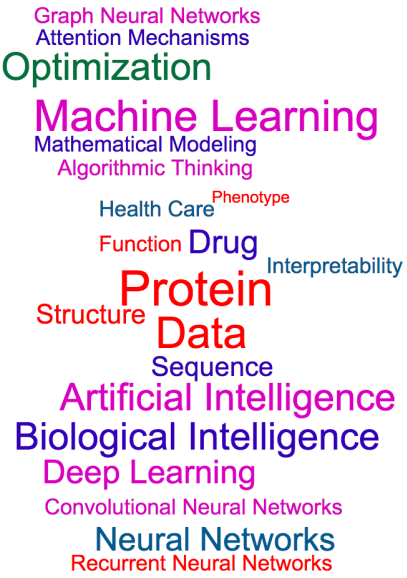
TEXAS A&M UNIVERSITY Engineering

Algorithms in Structural Bioinformatics

Time: TR 3:55pm-5:10pm
Location: ZACH 361

Instructor: Yang Shen (yshen@tamu.edu)
Shen-Lab.github.io





Course Description:

This course introduces **fundamental concepts, modeling techniques, and computational algorithms in structural bioinformatics** especially for students interested in algorithms and data science. Through fostering algorithmic thinking and problem-solving skills, it aims at preparing students for computational challenges arising from the data-rich field as well as career opportunities in the surging healthcare AI industries.

With **a focus on algorithms including optimization and learning**, the course provides essential knowledge for students without prior background in the application domain.

Application topics include protein sequence, structure, and function; drug discovery; genotype-phenotype association; and biomolecular systems engineering.

Prerequisites:

Basic knowledge in algorithms and programming. No prior knowledge in biomolecules or biomolecular systems is required. In the past 5 offerings, 7 undergraduate and 56 graduate students from 6 departments in 3 colleges have participated, leading to 50 course projects.