Statistics and Data Science Seminar

A Computational Biologist’s Bayesian Journey

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Abstract: Many biomedical researchers including myself lack the formal training in Bayesian statistics, yet we have found the beauty and magic in it. In this talk, I will present three projects: (1) Bayesian modeling to estimate hospitalization risk for COVID-19 patients with comorbidities, (2) a microbiome taxonomic classification method based on Bayes theorem and bootstrapping, and (3) predicting clinical outcomes of metastatic melanoma patients based on the commensal microbiome using a Bayes’ classifier. I will also highlight the limitations of our methods, so that hopefully hardcore mathematicians/statisticians can come up with better solutions.