Abstract: This talk is going to focus on the experiments in modeling the changes in the coefficient(s) of covariate(s) involving biweekly counts of Covid mortality in the counties of California while controlling for spatial effects via Besag York Mollie (BYM) model. The talk will start out by providing a visualization of the problem of interest and proceed to use generalized linear models to introduce a naive approach to model coefficient effects on average mortality counts. It will then proceed to introduce the Besag York Mollie (BYM) model, discuss the probabilistic scripting software STAN and our application with each covariate having a single coefficient. The talk proceeds to explain two main approaches to change point modeling and focuses on Jim Savage/James Hamilton’s exposition and the efforts to combine the two approaches.

Bio: Dr. Rasim Musal is an associate professor of quantitative methods in McCoy School of Business. His research interests focuses on Bayesian spatial models, and fraud waste or abuse in healthcare. Rasim currently works on efficiently combining Hidden Markov Models within spatial models.