Applied Mathematics Seminar

Alexander Wiedemann, Ph.D.

Visiting Asst. Prof. Mathematics – Randolph Macon College (VA)

Friday, January 26   1-1:50pm

MAK A-2-155 or [via zoom](#) (request password from ortizron at gvsu dot edu)

Community Detection, Topic Modeling, and Small-Town Policing Accountability

Abstract: Topic modeling is a machine-learning approach for discovering the latent (unobserved) semantic structures that occur in a collection of documents. For example, we may wish to automatically organize new articles into themes so that we can understand these themes separately.

Similarly, community detection in networks is a machine-learning approach for discovering the latent (unobserved) group structures that occur in large networks. For example, given the network of all twitter users we may wish to partition users into distinct communities based on their mutual interactions to better understand how (mis)information spreads.

In this talk, we explore new tools which adapt known community detection methods to create a new framework for topic modeling. We will then discuss current collaborations with the Institute for the Quantitative Study of Inclusion, Diversity, and Equity's research lab on Small Town Policing Accountability, and in particular our work on detecting the structures within police-written call log narratives in effort to understand policing in small towns.

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