

המחלקה למתמטיקה, בן-גוריון

קולוקוויום

ביום שלישי, 25 במרץ, 2025

בשעה 14:30 – 15:30

ב-101 Math

ההרצאה

Recovering tree models via spectral graph theory

חינתן על-ידי

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תקציר: Modeling by data latent tree models is a powerful approach in multiple applications. A canonical example of this setting is the "tree of life", where the structure of the tree is inferred from a set of organisms. In general, DNA data is given, and the task is to infer the tree structure. While the terminal nodes of the tree are common, the structure is often missing. In this talk, we will see a new method for recovering tree latent models, which is based on spectral graph theory. We show that the spectral properties of the graph defined on the terminal nodes are strongly related to the accuracy of the tree reconstruction. Finally, we see that this method performs significantly better than state-of-the-art methods, and is computationally efficient.