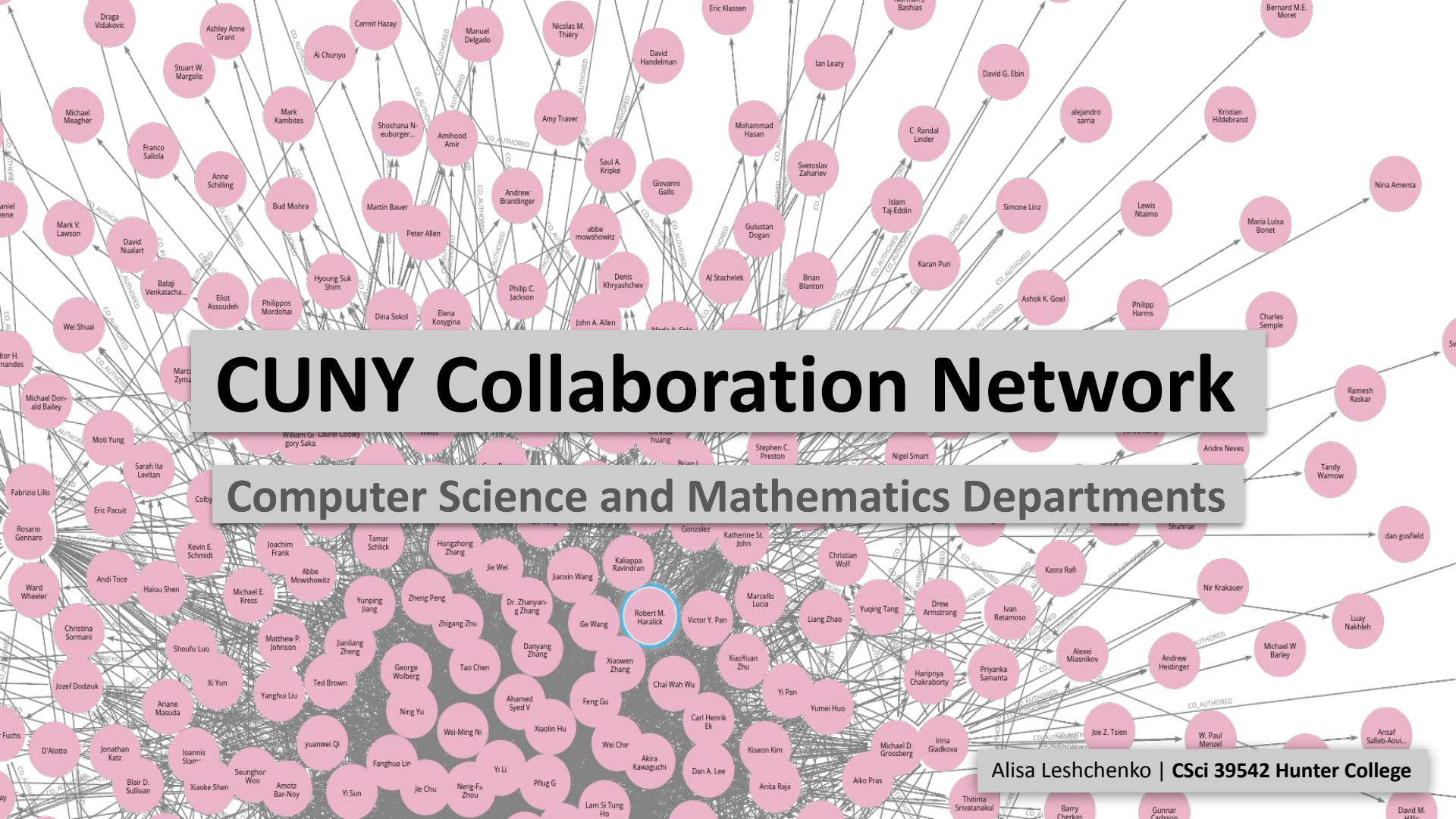
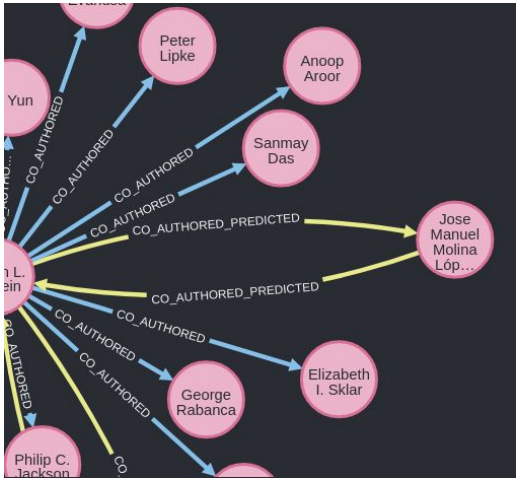
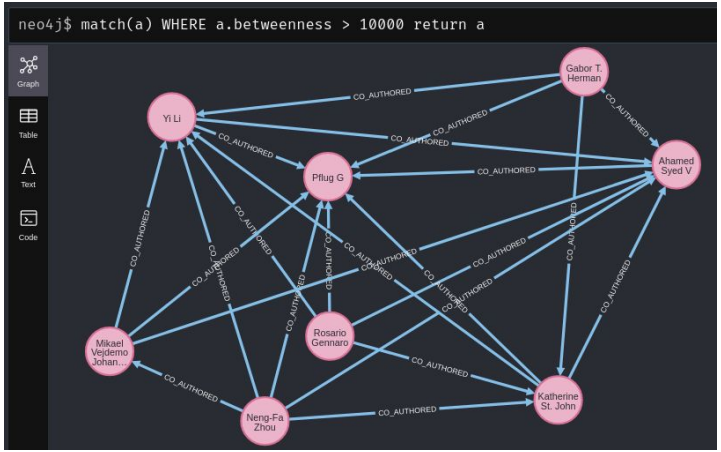

CUNY Collaboration Network
Computer Science and Mathematics Departments
Alisa Leshchenko | CSci 39542 Hunter College

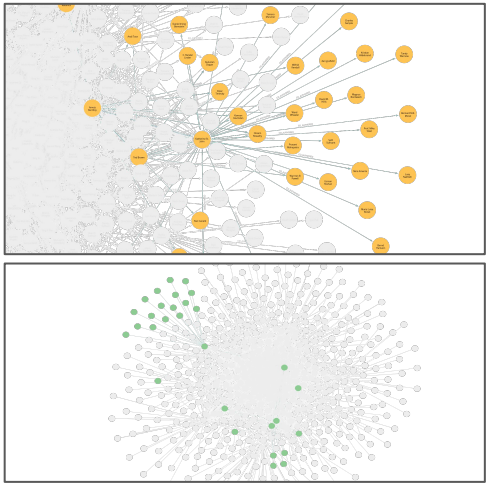
Data source: Google Scholar (via SerpAPI)
Graph database used: Neo4j

Discoveries

Note: Co-authorship was treated as an undirected edge; it is displayed as directed below for visual clarity.







Link prediction was run to predict future collaborations based on author' communities and interests (vectorized with word2vec), following a FastRP graph embedding to reduce dimensionality. Many of these predictions are existing collaborations that were missing from Google Scholar.

Betweenness centrality was calculated for all authors using Brandes' algorithm. The authors most influential to the flow of ideas between distant communities are displayed (the average and mode of the network's betweenness score were both ~500, while these authors have a betweenness score of over 10,000).

Distinct communities of authors were detected using the Louvain method with an edge weighting parameter (calculated as the number of co-authored publications two authors share). Future work will investigate shared interests within communities as well as change in communities over time, using the years of publication.