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Title: Ranking the Importance Level of Intermediaries to a Criminal
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Current research into discovering important intermediate nodes in a network suspected of containing criminal activity is highly dependent on network centrality values. No centrality measures are able to identify nodes important to a particular source node. This talk introduces a new source- intermediate reliance measure that is able to identify exactly such nodes. By applying it to rank the nodes in the Enron email dataset and comparing it with the betweenness, Markov and PageRank centrality measures, we show that the reliance measure is better able to prioritise nodes for criminal investigation purposes. The analysis of the nodes that are ranked the highest by the reliance measure results in the discovery of new persons who are convicted criminals.
This is joint work with P. Magalingam and S. Davis