Abstract:
Causal reasoning has for centuries been a topic of great philosophical and scientific controversy. Now at the mercy of algebraic geometry, graph theory, and probability, this stale old debate may be coming to a fruitful end, with applications in machine learning and computational biology already being implemented, not to mention serious implications for public policy, economics, and cognitive psychology. The theory of graphical causal models is a major entry point to the budding field of algebraic statistics, the topic of my PhD dissertation.