1. Proposal of Master Thesis (10 pages, pp. 2–11)
   Executive Summary: In this proposal, I proposed to use probabilistic network formation models as Bayesian priors to address the problem of unknown networks of spatial auto-regressive models (SAR). I discussed theoretical and practical contributions of this approach to the literature. Lastly, I devised and performed a proof of concept computation that involves Gibbs sampling and MCMC to sample random matrices.

2. Undergraduate Thesis (14 pages, pp. 12–25)
   Executive Summary: In this thesis, I proposed to use non-linear least-squares (NLS) to estimate SAR models with known networks. I proved the consistency and asymptotic normality of the NLS estimator. Furthermore, I demonstrated the NLS estimator with corrected weights is as efficient as the most efficient IV estimator. Lastly, I conducted numerical simulations to demonstrate the practicality of this approach.