Week Four

This week I began reading into causal inference, temporarily leaving behind applied machine learning. Having been recommended Schölkopf and Janzing's lectures from the 2013 Tübingen conference, I began studying these but found them beyond my grasp. For now, a simpler resource was called for.

Following some stumbling, including watching part of Jonas Peters' excellent lectures while reading along with their associated script (again out of my reach eventually), I arrived at a an approachable introductory lecture assuming no background. This was Pearl's presentation on causal reasoning at PyData LA 2018.

Next I investigated Pearl et al's Causal Inference in Statistics: a Primer. This was almost ideal; concepts were clearly defined and very little assumed by way of prior knowledge.

Week Five

Reading Pearl et al's Primer from cover to cover took me well into this week. Given the grounding in constraint based methods and SCM's this allowed for however, I consider it to have been time well spent. Little was discussed with regards to causal discovery algorithms with the exception of a basic outline of the (broad) PC algorithm family.

Upon finishing the book, I also revisited Peters' notes and finished them. Just prior to the end of the week, I read over Kalainathan's white paper on CDT and recognised the need to further my knowledge of causal discovery algorithms.

Week Six

This week I spent most of my time on Li et al's Practical Approaches to Causal Relationship Exploration. I found this book remarkably helpful, especially its coverage of the PC family; I passed over the sections on statistically based methods in comparison. Also of note were the explanations of the Causal Markov and faithfulness conditions in this book, giving unique interpretations I required assistance to interpret.

Of particular interest in Kalainathan's CDT package was the Structural Agnostic Model developed by himself and others. I read the white paper for the algorithm and parts of Schölkopf et al's Elements of Causal Inference: Foundations and Learning Algorithms to boost my understanding.