19D070052 – Sheel Shah

a. What is the specific aspect in harnessing the wisdom of the crowd that Whitehill et al. address? What is their methodological contribution?
=> They try to tackle the problem of varying reliability of labelers, and varying difficulty of labelling in the dataset labelling application. Some data might be easy to classify, and hence needn't be shown to too many labellers. We might also want to judge the reliability/expertise of a labeller. A probabilistic model is introduced by the writers to solve these problems in harnessing the wisdom of the crowd. They show that GLAD (their proposed method) outperforms the naive majority method. They use a expectation maximization technique to estimate (in maximum likelihood) the parameters that characterize the reliability of a labeller and the difficulty of a data point, with of course, the actual label of a data point.

b. The papers by Simmons et al. and Simoiu et al. both provide at least one result contrary to the wisdom-of-the-crowd principle, wherein a reasonable aggregation of individuals' responses results in an inferior outcome. Briefly describe a negative result from each paper.
=> 1. In NFL football betting, the crowd bet more on the 'favorite' for each match than the 'underdog' inspite of knowing that the spreads were worse for the favorites. This was beacuse of incorrect intuition.
2. Showing the consensus answer before getting the answer from each participant degrades the performance. This seems to be because the participants tend to go with the already popular option and hence incorrect initial consensi lead to a lot of the crowd 'herding' with them, resulting in poor performance of the crowd.