

Bruce's adventures in mixtureland

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Abstract: After 29 years, I still find mixture models to be a topsy turvy playground with fun for all. I will sketch out some interesting problems I have worked on during the past couple of years. The labelling problem (with Weixin Yao) and the boundary problem (Daeyoung Kim) are what I call "straight up" mixture problems. The relationship between mixtures, modes, and clusters was described in work with Surajit Ray and Jia Li. But an offshoot (Yejin Chung), leads to a new bias reduced kernel density estimator based on the EM algorithm. If there is time, I will jump through the looking glass and discuss a new matrix based approach to projection pursuit (Guodong Hui) which, although it was derived innocently enough, coughed up new insights when viewed from the mixture perspective.