



Fig. 3.4: The effect of multiple classes and noise in training data. (a,b,c) Training points for three different experiments: 2-class spiral, 4-class spiral and another 4-class spiral with noisier point positions, respectively. (a',b',c') Corresponding testing posteriors. (a'',b'',c'') Corresponding entropy images (brighter for larger entropy). The classification forest can handle both binary as well as multi-class problems. With larger training noise the classification uncertainty increases (less saturated colours in c' and less sharp entropy in c''). All experiments in this figure were run with  $T = 200$ ,  $D = 6$ , and a conic-section weak-learner model.

bels (in feature space) and large gaps. Here three different forests have been trained with the same number of trees  $T = 200$  and varying maximum depth  $D$ . We observe that as the tree depth increases the overall prediction confidence also increases. Furthermore, in large gaps (*e.g.* between red and blue regions), the optimal separating surface tends to