

Predictive Clustering and Systems Biology

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Predictive clustering is an approach to data analysis that includes elements of both clustering and predictive modelling. It allows for conceptual clustering, where we seek both clusters and their descriptions, as well as structured-output prediction, where the target is a complex structure (vector, hierarchy, graph). The talk will introduce predictive clustering, methods for building predictive clustering trees and ensembles thereof. It will then present several applications of predictive clustering to problems from the area of systems biology: These include gene function prediction, predicting the response of genes to stress and analyzing image data from genome/compound screens.