

Abstract: The Dirichlet Process Mixture Model (DPMM) is a powerful and flexible tool in Bayesian nonparametric statistics, allowing for data clustering and density estimation without specifying the number of clusters in advance. Unlike traditional parametric models, which assume a fixed structure, the DPMM adapts to the complexity of the data, making it particularly useful in situations where the number of underlying clusters is unknown or may grow with the data. This seminar introduces nonparametric Bayesian methods, with a focus on the Dirichlet Process and its use as a prior in mixture models.