BAYESIAN MACHINE LEARNING FOR DUMMIES

L Gokulnath, Abhishek Bansod

June 2021

Week 4

We continued our study on probability distributions and learnt about Cauchy distributions and Laplace distributions. We discussed few examples on applications and transformations of continuous random variable. We also studied Joint Distributions. We followed that up with a discussion on discrete bivariate random variables, Marginal PMFs, Conditional Distributions with their Expectation and Product Moments. This was followed by Assignment 2.

Week 5

We were introduced to Sampling Theory. We studied and discussed about its associated theorems, lemmas and results and also did some examples. We had an introduction to two schools of thoughts in Statistics- Frequentist and Bayesian. We learnt about Maximum Likelihood Estimation. We also solved some example problems and exercises.

Week 6

Our primary focus in week 6 is to learn about Bayesian Inference. We discussed Kolmogorov's axioms, risk function and Bayes rule. We also studied about Prior and Posterior Distributions and Decision theory and Game theory. We also learnt about Bayes Criteria and how to find a Bayes Decision function.