

Week 2 Reading

Si Kai Lee sl3950
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I read Zoubin's Probabilistic Machine Learning and Artificial Intelligence. The article highlights the role of uncertainty plays in probabilistic machine learning models and explicitly ignores models that where uncertainty is represented less explicitly. He gives a very basic introduction to Bayes' Rule and inference, the advantages of Bayesian modelling and Bayesian non-parametrics. It then covered five applications requiring uncertainty quantification. Out of the five, I found Bayesian optimisation and hierarchical modelling the most interesting and I have some prior knowledge of them after attending Machine Learning Summer School in Arequipa and am very excited to review and learn more about Bayesian optimisation in the reading group.

I believe this article is targeted to a wider audience outside of machine learning and was deliberately simplified to aid their understanding of probabilistic models. Therefore, it was not very informative in mathematical sense but it was a useful reminder of how important uncertainty quantification is in light of the massive push towards deep learning and its many applications.