

Experimental Design Introduction and Related Challenges in Order-of-addition Experiments

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Abstract

This talk will be divided into two main parts. The first part aims to introduce the importance and foundations of Experimental Designs. Sometimes, people think of statisticians after they have collected their data. However, decisions made before data collection can greatly influence the theoretical properties of estimators, models, and inferences. I hope this talk will help the audience understand that Statistics also plays a crucial role before any data are available, even in the simple linear regression setting. In the second part, I will briefly introduce the developments and challenges of a growing field: the design and analysis for order-of-addition experiments. These kinds of experiments encourage deeper reflection on what statistical modeling entails and offers new insights into model matrix codings in the linear regression. I have been working on this topic recently and would like to share this interesting area and our recent works.