

## Non-stationary A/B Tests

ABSTRACT – A/B tests, also known as online randomized controlled experiments, have been used at scale by data-driven enterprises to guide decisions and test innovative ideas to improve core business metrics. Meanwhile, non-stationarities, such as the time-of-day effect, day-of-week effect and week-to-week distribution changes, can often arise nonparametrically in key business metrics involving purchases, revenue, conversions, customer experiences, etc. We discuss in this presentation the impact and challenges of non-stationarities on A/B tests. We then discuss some scenarios where such impact and challenges can be appropriately alleviated or addressed by our proposed methods.



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SPEAKER BIO – Zeyu Zheng is an Assistant Professor at UC Berkeley, the Department of Industrial Engineering and Operations Research. He received a PhD degree in Operations Research from Stanford University in 2018, and a Bachelor degree in Mathematics from Peking University in 2012. He has done research in Monte Carlo simulation theory and simulation optimization. He is also interested in non-stationary stochastic modeling and experimental design.