



School of Data Science

香港城市大學
City University of Hong Kong

SEMINAR SERIES

Learning Manipulation Through Information Dissemination

DATE 3rd October 2019 (Thursday)
TIME 4:30pm to 5:30pm
VENUE P7510, 7/F, Yeung Kin Man Academic Building
(YEUNG), City University of Hong Kong

Abstract

We consider the problem of optimally manipulating a Bayesian learner through adaptive provisioning of information. The problem is motivated by settings in which a firm can disseminate possibly biased information at a cost, to influence the public's belief about a hidden parameter related to the firm's payoffs. For example, firms advertise to sell products. We study a sequential optimization model in which the firm dynamically decides on the quantity and content of information sent to the public, aiming to maximize its expected total discounted profits over an infinite horizon. We solve the associated Bayesian dynamic programming equation, and explicitly characterize the optimal manipulation policy in closed-form. The explicit solution allows us to characterize the evolution of the public's posterior belief under such manipulation over time.

Biography

Professor Keppo teaches risk management and analytics courses, and directs analytics executive education programs at NUS Business School. He is also Co-Director of NUS Business Analytics Center. Previously, he taught at the University of Michigan. He has several publications in the top-tier journals such as Journal of Economic Theory, Review of Economic Studies, Management Science, Operations Research, and Journal of Business on topics such as investment analysis, banking regulation, learning, and strategic incentives. His research has been featured also in numerous business and popular publications, including the Wall Street Journal and Fortune.

Professor Keppo's research has been supported by several Asian, European, and US agencies such as the National Science Foundation. He serves on the editorial boards of Management Science, Mathematics of Operations Research, Journal of Risk, Production and Operations Management, and Journal of Energy Markets. He has consulted several startups, Fortune 100 companies, and financial institutions.



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GUEST SPEAKER'S PROFILE

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All are welcome