26th Colloquium Lecture, School of Mathematics Faculty of Mathematics and Physics

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University College London

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Sokolovská 83, Praha 8 – Karlín

Nonparametric maximum likelihood methods for binary response models with random coefficients

Abstract

Single index linear models for binary response with random coefficients have been extensively employed in many settings under various parametric specifications of the distribution of the random coefficients. Nonparametric maximum likelihood estimation (NPMLE) as proposed by Kiefer and Wolfowitz (1956) in contrast, has received less attention in applied work due primarily to computational difficulties. We propose a new approach to computation of NPMLEs for binary response models that significantly increase their computational tractability thereby facilitating greater flexibility in applications. Our approach, which relies on recent developments involving the geometry of hyperplane arrangements by Rada and Černý (2018), is contrasted with the recently proposed deconvolution method of Gautier and Kitamura (2013).

About the speaker

Roger Koenker is Honorary Professor of Economics at the University College London. Until 2018 McKinley Professor of Economics and Professor of Statistics at the University of Illinois at Urbana-Champaign, from 1976 to 1983 he was a member of the technical staff at Bell Laboratories. He has held visiting positions at The University of Pennsylvania; Charles University, Prague; Nuffield College, Oxford; University College London; and Australian National University. He is a Fellow of the Econometric Society, of the American Statistical Association, and of the Institute of Mathematical Statistics. He obtained his A.B. from Grinnell College in 1969, and his Ph.D. from the University of Michigan in 1974; he is a recipient of the Emanuel and Carol Parzen Prize for Statistical Innovation, in 2010. Among other topics, he devoted more than 25 years of research to Quantile Regression; his eponymous monograph on this topic is an authoritative reference in this fast growing field.

Further information

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