



香港中文大學統計學系

Department of Statistics

THE CHINESE UNIVERSITY OF HONG KONG

DISTINGUISHED LECTURE

Causal Inference by Encoding Generative Modeling



Professor **Wing Hung WONG**

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Professor of Statistics

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COPSS Distinguished Achievement Award and Lectureship (2021)

Founding Member, The Academy of Sciences of Hong Kong (2015)

Academician, Academia Sinica (2010)

Member, National Academy of Sciences, USA (2009)

IMS Neyman Lecture (2002)

The COPSS Presidents' Award (1993)

Date: 24 November 2023 (Friday)

Time: 2:30 pm — 3:30 pm

Venue: LT2, Lady Shaw Building,
The Chinese University of Hong Kong

Abstract

We consider the problem of inferring the causal effect of an exposure variable X on an outcome variable Y . Besides X and Y , a high-dimensional covariate V is also measured. It is assumed that confounding variables that may cause bias in the desired causal inference are low-dimensional features of V . Under this assumption, we propose an encoding generative modeling (EGM) approach for the estimation of the average dose response function, a function that captures, in an average sense, the dependency of Y on X when confounders were held fixed. We show that EGM provides a framework for us to develop deep learning-based estimates for the structural equations that describe the causal relations among the variables. We will present numerical and theoretical evidence to demonstrate the effectiveness of our approach.

★★★★★ All are welcome ★★★★★

For enquiries please contact Miss Esther TAM (Tel: 3943 7931)
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