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Education

Ph.D., Economics, The University of Texas at Austin, 2017-2022 (Expected)

M.A., Economics, The University of Texas at Austin, 2017-2019

B.A. (Cum Laude), Economics, Cornell University, 2013-2017

B.S., Computer Science, Cornell University, 2013-2017

References

Sukjin Han (Co-Chair)
Department of Economics
University of Bristol
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Brendan Kline (Co-Chair)
Department of Economics
The University of Texas at Austin
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Haiqing Xu
Department of Economics
The University of Texas at Austin
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Research Interests

Econometrics, Model selection, Machine learning, Structural modeling, Computational economics

Working Papers

"Uniformly Valid Model Selection with the Bootstrap" (Job Market Paper)

This paper explores how bootstrapping can improve inference for the Vuong test. I suggest a bootstrap test with a test statistic similar to that of Shi (2015). I establish that the suggested bootstrap has uniformly valid asymptotic size control in the case of both non-overlapping and overlapping models. I also show that the new test achieves an asymptotic refinement for non-overlapping models. Implementing the suggested test is very similar to the standard bootstrap. When compared with other Vuong tests in Monte Carlo simulations, the suggested test controls size equally well and achieves higher power. Finally, I illustrate selecting models with the bootstrap with four stylized empirical examples from multiple fields of economics. The new test selects a model at higher significance levels in all examples.

"Shapes as Product Differentiation: Neural Network Embedding in the Analysis of Markets for Fonts" with Sukjin Han, Kristen Grauman, and Santhosh Ramakrishnan

> Many differentiated products have key attributes that are high-dimensional (e.g., design, text). We consider one of the simplest design products, fonts, and quantify their shapes by constructing embeddings using a modern convolutional neural network. Using the data from the world's largest online market place for fonts, we study the causal effect of a merger on the merging firm's creative decisions of product differentiation by using the embeddings in a synthetic control method.

Works in progress

"Timing and Beliefs in Healthcare Bargaining" with David Sibley

Professional activities

Conference presentations:

North American Winter Meetings of the Econometrics Society, January 2021

European Winter Meetings of the Econometrics Society, December 2020

KER International Conference, August 2020

Texas Econometrics Camp, February 2020

Service:

Faculty Liaison, Economics Graduate Student Council, 2020 - Present

Coordinator, Graduate Student Seminar, 2019 - 2020

Honors and Awards

Graduate Teaching Fellowship, The University of Texas at Austin, 2017 - Present

Funding for an Undergraduate Research Assistant, The University of Texas at Austin, 2020 - Present

Professional Development Award, The University of Texas at Austin, 2020

Teaching Experience

The University of Texas at Austin

Econometrics I (Ph.D. course), Prof. Stephen G. Donald, Fall 2019; Fall 2020; Fall 2021

Business Strategy, Prof. David Sibley, Spring 2018; Spring 2021

Introduction to Econometrics, Prof. Brendan Kline and Prof. Sukjin Han; Spring 2019, Spring 2020

Advanced Econometrics (with Machine Learning), Prof. Sukjin Han, Fall 2018

Work Experience

Research Assistant for Sukjin Han and Kristen Grauman, The University of Texas at Austin, 2018 - 2021

Research Assistant for David Sibley, The University of Texas at Austin, 2018 - 2021

Research Associate, Enterra Solutions LLC, 2017

Revenue Management Analyst Intern, Accenture PLC, 2014 - 2016

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