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GENDER: Female

CITIZENSHIP: Polish, British

EDUCATION:

London School of Economics

PhD in Economics 2020-present

ADVISORS: Professor Javier Hidalgo, Professor Taisuke Otsu

THESIS TITLE: "Essays in Econometric Theory"

EXPECTED COMPLETION DATE: January 2025

MRes in Economics 2018-2020

MSc in Econometrics and Mathematical Economics 2017-2018

BSc in Econometrics and Mathematical Economics 2014-2017

DESIRED RESEARCH FIELDS:

Econometric Theory

DESIRED TEACHING FIELDS:

Econometric Theory, Applied Econometrics, Mathematics

WORKING PAPERS:

"Nonparametric network bootstrap" Job Market Paper, 2024

Inference on network data is challenging due to the strong dependence between observations, which renders standard techniques incorrect. To address this, we propose a valid bootstrap procedure for network data based on a nonparametric linking function estimator. We characterise the conditions under which this estimator is uniformly consistent. Additionally, we prove that the distribution of the bootstrap network is consistent for the distribution of the original network in terms of a Wasserstein distance. We also provide conditions under which distributions of a class of functions related to U-statistics on the bootstrapped networks consistently replicate the distributions of the corresponding statistics on the original network. Monte Carlo simulations show good confidence interval coverage for a wider class of network functions than those accounted for by our theory. We apply our method to the data from Banerjee, Chandrasekhar, Duflo, and Jackson (2013): we replicate their findings, but also show that our method works under weaker assumptions and with a significantly smaller sample size. Finally, we propose an alternative specification of their model which takes advantage of our linking function estimator and may be of interest independently of our bootstrap procedure.

“Understanding regression shape changes through nonparametric testing” 2024
with Tatiana Komarova

We propose a procedure for testing whether a nonparametric regression mean satisfies a shape restriction that varies within the domain of the regressor. Notably, the change points of these shape restrictions are unknown and must be estimated. Our test statistic is based on the empirical process, drawing inspiration from Khmaladze (1982). This paper extends the nonparametric methodology of Komarova and Hidalgo (2023) by proposing a method to estimate the shape change points and consequently addressing the additional estimation errors introduced by that stage. We analyse the strategies for managing these errors and adapting the testing approach accordingly. Our framework accommodates various common shapes, such as (inverse) U-shapes, S-shapes, and W-shapes. Furthermore, our method is applicable to partial linear models, thereby encompassing a broad spectrum of applications. We demonstrate the efficacy of our approach through application to several economic problems and data.

“Testing for additivity in nonparametric regression models” 2024
with Javier Hidalgo and Tatiana Komarova

We describe and examine a test for additivity in a nonparametric framework using partial sums empirical processes. We show that, after a suitable transformation, its asymptotic distribution is a functional of the standard Brownian sheet of the probability distribution function of the independent variables. Although the asymptotic behaviour does not depend on the model or its estimator, it is not pivotal. Because of this, we also describe a valid bootstrap algorithm.

REFERENCES:

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AWARDS AND SCHOLARSHIPS:

PhD Studentship, London School of Economics	2018–2022
Department of Mathematics New Teacher Prize, LSE Department of Mathematics	2020
Class Teacher Award, LSE Department of Economics	2018
CS MacTaggart Prize, London School of Economics	2017

PRESENTATIONS:

CeMMAP PhD Research Day (UCL)	September 2024
LSE Work-in-Progress Seminar	February 2023, March 2024, October 2024

RELEVANT POSITIONS HELD:

Research Assistant to Professor Tatiana Komarova	2019
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TEACHING:

London School of Economics

Teaching Fellow

EC484 Econometric Analysis (MSc)	2020-2025
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Graduate Teaching Assistant

EC400 Introductory Course in Mathematics (MSc)	2018-2021
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EC320 Applied Econometrics and Big Data (Summer School)	2019, 2023, 2024
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EC312 Advanced Econometrics (Summer School)	2018, 2019, 2022
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EC309 Econometric Theory (BSc)	2017/18
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EC221 Principles of Econometrics (BSc)	2017/18, 2019/20
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MA100 Mathematical Methods (BSc)	2019-2021
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Revised 29 October 2024