Yaroslav Korobka

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Summary

I am a forth-year PhD candidate with interests in econometrics, statistics, and machine learning. My main interests are modeling with many regressors, and applications of the machine learning methods in economic settings.

Education

2023 – present	PhD (Economics & Econometrics) at **CERGE-EI**	
2021 – 2023	Master of Arts (Economic Research) at **CERGE-EI**	
2019 – 2021	Master's (Statistical Methods) at **Masaryk University**	(summa cum laude)
2016 – 2019	Bachelor's (Finance) at **Masaryk University**	(summa cum laude)

Projects

Nonparametric Estimation with Many Fixed Effects

We discuss a possible generalization of the model by Abowd, Kramarz and Margolis (1999). Specifically, we relax the linearity assumption assuming that the outcome variable is additive in the unknown function of characteristics $f(Z)$, and firm- and worker-specific fixed effects $X\beta$. Asymptotically, we assume the number of fixed effects to grow with the sample size, $\dim(\beta)/n \to \pi$. In preliminary results, we show that estimators of interest are contaminated by biases arising from the nonparametric estimation, and they should be accounted for to provide valid estimation and inference.

Model Averaging with a Diverging Number of Covariates (with Stanislav Anatolyev)

In this paper, we consider a model averaging setup while allowing the number of parameters to diverge in the limit. Specifically, we develop a valid asymptotic theory of averaging estimator under the assumption of $q/n \to \mu \in (0, 1)$ as $n \to \infty$, which is the assumption conventionally used in the random matrix theory. Our "many-covariates" asymptotic theory, valid both in homo- and heteroskedastic case, is motivated by the usage of nowadays popular large datasets that could potentially invalidate limiting results built under the standard asymptotics (e.g., $q/n \to 0$).

Semiparametric Specification Testing with Many Regressors

We extend a classical misspecification test by Delgado and Stenglos (1994) to settings with a number of regressors proportional to the sample size. Test statistic is a functional of the estimator of the underlying unknown function, and we show in homoskedastic simulations that kernel estimator is enough to conduct the test of the proper nominal size. However, in heteroskedastic environment we observe rejection rates that do not correspond to the nominal size even if we use variance estimators that are robust to many regressors.

Fast and Furious: A Model of Sequential Narratives

In this research proposal I suggest a model that explains the order of the sequential information provision. Senders deal with a trade-off between being first, and reputation concerns and information precision. I build a mechanism that explains the notion of fake news and their consequences on the agent's beliefs.

R Statistics Package Repository

The R package that helps to work with statistical hypotheses more conveniently.

Academic Experience

Research Assistant, CERGE-EI Feb 2022 - present

- ERC-CZ grant: "Hierarchical Networks and their Microeconomic Origins" (PI: Paolo Zacchia)
  - development of robust methods in nonparametric estimation
- Czech Academy of Sciences: Strategy AV21 "Sustainable Energy" (PI: Silvester van Koten)
  - application of neural networks in energy price predictions

Teaching Assistant, CERGE-EI Feb 2022 - present

- Statistics for PhD (evaluation: 5.00 [2022], 4.58 [2023])
- Econometrics I for PhD (evaluation: 4.63 [2023])
- Econometrics II for PhD (evaluation: 4.75 [2023], 4.56 [2024])
- Dynamic Modeling in Economics
- Macroeconomics III for PhD (evaluation: 5.00 [2023])

Publications

Korobka, Yaroslav (June 2021). "Exchange Rates Predictions using Machine Learning Methods". In: *Master's thesis*, pp. 1–79. URL: https://is.muni.cz/auth/th/tqen5/diploma_thesis.pdf.

Conferences

October, 2025	*ISI World Statistics Congress 2025*, The Hague, The Netherlands (accepted for presentation)
November, 2024	*13th Biennial Conference of the Czech Economic Society*, Prague University of Economics of Business, Prague, Czech Republic (presenter)
September, 2024	*Slovak Economic Association Meeting 2024*, Comenius University Bratislava, Faculty of Management, Bratislava, Slovakia (presenter)
July, 2023	*Nonparametric and Semiparametric Methods in Economics and Finance*, University of Minho, Braga, Portugal (attendee)
June, 2023	*The 33rd Advanced School in Economic Theory: Imperfect Cognition and Economic Behaviour*, The Hebrew University of Jerusalem, Jerusalem, Israel (attendee)
September, 2022	*16th International Conference on Energy Economics and Technology*, Technische Universität Dresden, Faculty of Business and Economics, Dresden, Germany (attendee)

Awards

2024, CERGE-EI	Stapleton award
2022 – present, CERGE-EI	Performance scholarship
2019, 2021, Masaryk University	Dean's prize for outstanding academic results
2021, Masaryk University	Master's degree with honors
2017 – 2020, Masaryk University	Scholarship for talented students from 3rd-World countries (Top-7)
2019, Masaryk University	Bachelor's degree with honors