Egor Kudriavtcev

jobsearch2025@ekudr.info
site: www.ekudr.info linkedin: www.linkedin.com/in/egor-kudriavtcev-14523194

Education

2017 – 2025 **The Simon Business School, University of Rochester**
Ph.D. in Marketing

2011 – 2013 **New Economic School (NES),** *Master of Arts*
Major: Economics, specialization: Finance

2008 – 2010 **Moscow Institute of Physics and Technology (MIPT),** *Master of Science*
Applied Mathematics and Control department
Major: Applied Mathematics and Physics, specialization: Applied Economics

2004 – 2008 **Moscow Institute of Physics and Technology (MIPT),** *Bachelor of Science*
Applied Mathematics and Control department
Major: Applied Math. and Physics, specialization: Applied Mathematics

Working & Research experience

2022 – 2024 **Catiger Studio**, *Director and Techlead*
Led a team of 6 game developers and shipped a video game

2014 – 2015 **OAS Enterprises**, *Fixed income analyst*
Analyzed fixed income markets
Worked with Bloomberg

2014 – 2015 **Strategy Partners Group**, *Freelancer*
Did research on regional innovation activity in Russia

2012 – 2014 **Gaidar Institute of Economic Policy**, *Junior researcher*
Built firm-level international trade models
Estimated the effects of non-tariff measures

2011 summer **Startup "Evanti"**, *Consultant*
Developed investment memorandum
Startup became the resident of Skolkovo

2009 – 2011 **Experimental Economics Laboratory at MIPT (MIPT EE Lab)**, *Student*
Performed experiments and did research in experimental economics

2007 – 2009 **Institute of Economic Forecasting RAS**, *Junior researcher*
Created Leontief's input-output models

Teaching experience

2019,2020 **Simon Business School**, *Lab instructor*
Marketing Research

2018,2019 **Simon Business School**, *TA*
Marketing analytics, Marketing research, Programming for analytics

2015 spring **International College of Economics and Finance (ICEF)**, *TA, Grader*
Derivatives

2015 spring **New Economic School (NES), MAE program**, *Grader*
Fixed Income

2013, 2014 **National Research University – Higher School of Economics**, *TA, Grader*
Probability Theory and Mathematical Statistics

2013 spring **New Economic School (NES), MIF program**, *TA, Grader*
Financial Econometrics – I, II

2013 fall **International College of Economics and Finance**, *Lecturer, Grader*
Computer Information Systems (Excel, VBA)

2012 - 2013 **The State Academic University for the Humanities**, *Lecturer, Grader*

Econometrics, Time Series Analysis

2012 fall **National Research University – Higher School of Economics**, *Grader*
Introduction to Computer Science (Java)

2010 – 2011 **Evening School of Engineering and Physics at MIPT**, *Lecturer, Grader*
Advanced mathematics for senior pupils

Private tutoring experience

2005 – 2016 linear algebra, mathematical analysis, probability theory, statistics, stochastic processes, econometrics, time series, graph theory, game theory, microeconomics, macroeconomics, optimal portfolio choice theory, neural networks, optimal control, differential equations, programming, and other…

Languages:

Russian	Native speaker
English	Fluent
Spanish	Intermediate

Computer skills:

Windows, Mac OS, Ubuntu, Linux KVM	Experienced user
MS VBA for Excel	Advanced Programmer
R, Python, Julia, MATLAB, Gauss	Applied calculations, Modeling
Gretl, Eviews, Stata (and MATA)	Regressions and Data analysis
Java, C#, C++, Delphi, Python	Development of applications
Keras, tidyverse, data.table, pandas	Machine Learning, Data wrangling
JavaScript, Selenium	Web scraping
Rstan	Bayesian estimation
Bloomberg terminal (and excel integration)	Advanced user
Unity3d	3d Engine
AWS, Firebase	Cloud Technologies
XML, HTML, SQL, DLL, OpenGL, …	Experienced with many other technologies

Research projects at Simon Business School:

Manual versus Automated Pricing in Online Pricing Simulation Experiment
joint work with Jeanine Miklos-Thal and Catherine Tucker

Our study examines the impact of rule-based automation on seller competition in the context of online marketplaces. We conducted an online experiment with real human subjects, where participants acted as sellers in a real-time simulated market. Sellers could manually adjust prices or use automated rules. A key feature of our simulation was that each seller participated in both manual and automated markets simultaneously, which allowed us to cancel out any individual seller's effects. We found a positive correlation between the prevalence of automation and price levels. Our results contribute to ongoing discussions about the potential impact of automated pricing on market dynamics and pricing strategies. In particular, our findings indicate that by choosing to follow simple rule-based automation, sellers gave up their market power to other sellers, allowing them to coordinate their prices to achieve higher price level outcomes. The availability of simple rule-based automation enabled sellers to achieve a pricing outcome of a collusive equilibrium, whereas manual pricing forced sellers to race all the way to the bottom, approaching the Nash equilibrium.

ConjointNet: Combining Conjoint and Consumer Panel Data using Neural Networks

joint work with Mitchell Lovett and Bhoomija Ranjan

Accurate prediction of consumer preferences for new-to-market attributes is critical for successful product development and marketing strategies. This study examines the effectiveness of a novel approach that integrates conjoint survey data (SP data) with panel data on actual purchases (RP data) to improve the reliability of consumer preference predictions for new-to-market attributes (NTMA). By adopting the NN+S approach, we address the challenges associated with the interplay between RP and SP data, specifically focusing on mitigating the issues related to selecting the optimal tightness between these data types and preventing overfitting through a k-fold cross-validation procedure. We illustrate our methodology by applying it to a unique dataset and comparing its performance with an alternative approach (Ellickson et al., 2019). The proposed method demonstrates a substantial performance boost for both same-sample customers and out-of-sample customers, as well as for new-to-market attributes. The proposed method does not require an expert's opinion for selecting the linked attributes, which is an additional improvement over (Ellickson et al., 2019).

Implementing Deep Learning in Estimation of Heterogeneous Taste Parameters in Hierarchical Structural Models

joint work with Anastasia Lebedeva

This paper introduces NN+S, a novel semi-parametric framework that integrates neural networks with structural models to estimate heterogeneous taste parameters with enhanced accuracy and interpretability, offering significant applications in marketing. By designing a neural network architecture that models both observed and unobserved heterogeneity, as well as intra-individual random taste shocks, NN+S captures complex preference structures while retaining structural interpretability. The NN+S model enables companies to predict consumer responses to counterfactual scenarios, such as new product introductions, personalized pricing, or changes in product attributes.

Validated through Monte Carlo simulations, NN+S effectively recovers the true taste parameters. Empirical results show that NN+S outperforms linear hierarchical Bayesian models (LHBM) and the model by Farrell et al. 2020 (FLM) on a classical margarine purchase dataset for in-sample predictions, leveraging purchase histories for precise targeting and market segmentation. For out-of-sample predictions, NN+S achieves a slightly higher hit rate than alternative approaches. Scalable via standard neural network tools, NN+S empowers marketers to optimize strategies such as dynamic pricing and product recommendations, providing a flexible and interpretable tool for demand estimation.

Estimation of unobserved product characteristics from online reviews using matrix factorization technique

solo project

This paper investigates an application of the matrix factorization (MF) approach for the estimation of unobserved product characteristics from online ratings. We illustrate our approach using online reviews from the beer industry. The results show that estimated unobserved characteristics can be associated with observed characteristics, showing potential usage in cases where observed characteristics are not available. At the same time, estimated unobserved characteristics have several advantages over observed characteristics, including relevance, interpretability, and low dimensionality. In the case of the beer industry, the incorporation of estimated unobserved characteristics improves the substitution patterns of the aggregate demand model. This paper quantifies the errors of the estimates and shows that the bias caused by the selection of reviews is negligible. This technique can also be applied for the estimation of characteristics to improve the substitution pattern estimates in industries such as video games, movies, and books.

Awards and Distinctions:

2016 Selected to receive a Eugene McDermott Graduate Fellowship from University of Texas at Dallas (UT Dallas)

2011 Prizewinner of 54th MIPT Research Conference, Experimental Economics section, report "Using the L-equilibrium for the analysis of the games with the unimodal profit functions"

2010 Winner of 53rd MIPT Research Conference, Experimental Economics section, report "Analysis of the model “Majority Voting” using the L-equilibrium concept"

2009 Prizewinner of 52nd MIPT Research Conference, Experimental Economics section, report "The model of the election participation: Theory and Experiment"

Conferences:

2015 58th MIPT Research Conference (winner)
Delivered report “How L-equilibrium is connected to Nash equilibrium and LQRE”

2013 56th MIPT Research Conference
Delivered report “The problem of the definition of the Choose Number class of games” (translation from Russian)

2013 32nd NES Research Conference
Delivered report “Diversification of the production under liberalization of the international trade. Heterogeneous approach” (transl. from Russian)

2012 55th MIPT Research Conference
Delivered report “Strategic-Rational behavior of the people in the games with unimodal profit functions” (translation from Russian)

2011 54th MIPT Research Conference (prizewinner)
Delivered report “Using the L-equilibrium for the analysis of the games with the unimodal profit functions” (translation from Russian)

2010 53rd MIPT Research Conference (winner)
Delivered report “Analysis of the model “Majority Voting” using the L-equilibrium concept” (translation from Russian)

2010 VI Moscow international conference of operations research
Delivered report “The model of the election participation with two electoral groups. Theory and Experiment” (translation from Russian)

2009 52nd MIPT Research Conference (prizewinner)
Delivered report “The model of the election participation: Theory and Experiment” (translation from Russian)

Publications in Russia (with English translations)

• Кудрявцев Е.Л., 2015, Труды 58-й научной конференции МФТИ, "Взаимосвязь L-равновесия с равновесием Нэша и LQRE" (Kudriavtcev E., 2015, Proceedings of 58th MIPT Research Conference, “How L-equilibrium is connected to Nash equilibrium and LQRE”)

• Кудрявцев Е.Л., 2013, Труды 56-й научной конференции МФТИ, "Проблема определения класса игр «Выбери число»"(Kudriavtcev E., 2013, Proceedings of 56th MIPT Research Conference, “The problem of the definition of the Choose Number class of games”)

• Кудрявцев Е.Л., 2012, Труды 55-й научной конференции МФТИ, "Рационально-стратегическое поведение людей в играх с унимодальной функцией выигрыша" (Kudriavtcev E., 2012, Proceedings of 55th MIPT Research Conference, “Strategic-Rational behavior of the people in the games with unimodal profit functions”)

• Кудрявцев Е.Л., 2011, Труды 54-й научной конференции МФТИ, "Использование L-равновесия для анализа теоретико-игровых моделей с унимодальной зависимостью выигрыша от порогового значения стратегии игрока" (Kudriavtcev E., 2011, Proceedings of 54th MIPT Research Conference, “Using the L-equilibrium for the analysis of the games with the unimodal profit functions”)
• Кудрявцев Е.Л., 2010, Труды 6-й Московской Международной конференции по исследованию операций "Модель явки на выборы с двумя группами выборщиков. Теория и эксперимент" (Kudriavtcev E., 2010, Proceedings of VI Moscow international conference of operations research, “The model of the election participation with two electoral groups. Theory and Experiment”)
• Кудрявцев Е.Л., 2010, Труды 53-й научной конференции МФТИ, "Анализ модели "Явка на выборы" на основе L-равновесия" (Kudriavtcev E., 2010, Proceedings of 53rd MIPT Research Conference, “Analysis of the model “Majority Voting” using the L-equilibrium concept”)
• Кудрявцев Е.Л., 2009, Труды 52-й научной конференции МФТИ, "Игровая модель явки на выборы: теория и эксперимент" (Kudriavtcev E., 2009, Proceedings of 52nd MIPT Research Conference, “The model of the election participation: Theory and Experiment”)

Hobbies
Learning programming languages, experimenting with rack servers, studying video game industry, ex foosball leader and coach