GREGORY CHERNOV

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TECHNICAL SKILLS

General causal inference | Randomisation inference | EconML | Dowhy | Outcome-based Learners (e.g. X-Learner) | Causal discovery | Machine Learning Based Estimation | Balancing | Experimentation | AB-tests | Cluster based randomisation | Structure learning | Optimal experiments | Augmented models | Panel and time-series | Interpretable ML | Quasi-experiments | Monte-Carlo Sampling | Item-response regressions

EDUCATION

Ph.D. in Economics.
Thesis Title: Models of learning in economic experiments (eng)
Higher school of economics (HSE)

📅 2016 Nov - 2022 Oct   📍 Moscow, Russia

M.Sc. Financial management; B.Sc. Management
Novosibirsk state university (NSU)

📅 2014–2016; 2010–2014   📍 Novosibirsk, Russia

RESEARCH/WORK EXPERIENCE

Guest researcher
Max Planck Institute for Biological Cybernetics

📅 2023 — pres.   📍 Tübingen

- Design, Conduct and Analysis of Neuroeconomic Experiments related to dynamic risk preferences assessment.

Postdoc research fellow
HSE Campus in St. Petersburg, Center for Market Studies and Spatial Economics

📅 2022 — pres.   📍 remote

- Establishing an industry-university cooperation
- Deploying the participant recruitment system for economic experiments based on HROOT (Ruby on Rails)

Research Assistant
HSE laboratory research for experimental and behavioural economics

📅 2016 — 2022   📍 Moscow, Russia

- Assembled an interdisciplinary team and funding for neuro-measurement, organised a pipeline between experimental software and equipment (NaClModule; psychojs; jsPsychHardware)
- Designed and assisted more than 20 field and laboratory experiments
- Created many web applications for experiments which were hosted and maintained on heroku servers (Jango; REST API)
- Supervised 5 student research projects (Ba/Ma thesis)
- Gave and assisted multiple university lectures (see teaching)
- Contributed to development of experimental designs for inter-regional lab in the field experiments

Guest researcher
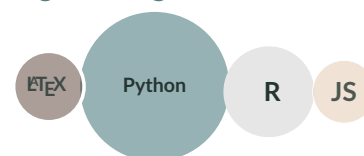**University of Tübingen, Department of Computer Science**

📅 2022 — 2023   📍 Tübingen, Germany

LANGUAGES AND SKILLS

Languages

- Russian (native)
- English (professional)
- German (elementary)

Programming

LaTeX | Python | R | JS

Software

MS Office | oTree (Django/Starlette) Git | Photoshop & CorelDraw Tableau | Orsee

ADMINISTRATION

- International natural sciences tournament, executive director, 2016
- Co-founder of non-profit organization «Grani obrazovania» for student competitions and educational events 2016 — 2021
- Summer School 'Experimental Economics: Purposes, Design, Tools'2019, 2019 St.Petersburg

AWARDS AND FELLOWSHIPS

DAAD Short-Term Grants, Jena, Germany, 2020–2021
HSE founded scholarship for doctoral students, 2016–2019
DAAD Short-Term Grants, Heidelberg, Germany, 2018–2019
Vladimir Potanin foundation scholarship, 2016

INTERESTS

Experimental economics
Interventional causal discovery
Bounded rationality
Learning in games
Applied decision making
Data visualization

- Conducted structural econometric estimates involving simulation of panel data using open data (pandas)

Guest researcher

University Jena, Department of empirical and experimental economic research

📅 2020 Oct — 2021 Sep   📍 Jena, Germany

- Developed a user interface for analysing the complexity of user beliefs or strategies (js|cytoscape)

Guest researcher

University Heidelberg, Alfred-Weber institute, Economic Theory II

📅 2018 Dec — 2019 Mar   📍 Heidelberg, Germany

- Wrote a platform to help analyse the identification of structural learning patterns through Monte Carlo simulations of player behaviour (numba,scipy)

PUBLICATIONS

- *In press* Chernov G., Rydich P., Ladonovskaya K.,D. Lebedkin, Belianin A. EEG study of decision-making in uncertain and risky situations via a gamified environment // IEEE Ural-Siberian Conference on Computational Technologies in Cognitive Science, Genomics and Biomedicine (CSGB). IEEE 2023
- *Under revision* (R&R) Chernov G. The alternative factors leading to replication crisis: prediction and evaluation // Evaluation Review. 2023
- *Conference paper* Chernov G., Rydich P., Ladonovskaya K., Belianin A. 2022, October. Dynamic estimation of risk preferences: behavioural and neuroeconomic study // International Conference on Biomedical Engineering and Computational Technologies (SIBIRCON). IEEE 2022 doi
- *Article* Chernov G. How to Learn to Defeat Noisy Robot in Rock-Paper-Scissors Game: An Exploratory Study // HSE Economic Journal. 2020. Vol. 24. No. 4. P. 503-538. doi RePEc
- *Article* Chernov G., Susin I. Models of learning in games: an overview // Zhournal Novoi Ekonomicheskoi Associacii. 2019 Vol. 44, P.77. doi [RUS]
- Chernov G., Susin I. Heuristics Recognition and Learning in Rock-paper-scissors Game: Experimental Study // Russian Journal of Economic Theory, 2018 15(3):408-19.
- *Book Review* Chernov G. Book Review Keith Stanovich, Richard West, and Maggie E.Toplak: The rationality quotient: toward a test of rational thinking // Journal of Behavioral Economics for Policy. 2017. Vol. 1. No. 1. P. 81-82.

PREPRINTS AND WORKS IN PROGRESS

- *JPM* How we identify cause-effect relationships given evidence: An exploratory study // 2023 link
- *Preprint* Chernov G., Maghsudi S., Susin I. Directional Learning in continuous action spaces // 2023. doi
- *Preprint* Susin I., Chernov G., Cheparuhin S. Evaluation of Econometric Models of Adaptive Learning by Predictive Measures // SSRN. Series "Working Papers". 2020 doi
- *Work in progress* Chernov G., Melnikov M., Rydich P., Ladonovskaya K., Belianin A. Default mode network activation during real effort risky decision decision-making
- *Work in progress* Chernov G., Susin I., Neither Reinforcement nor Belief Learning in Repeated Bimatrix Asymmetric Interactions
- *Work in progress* Belianin A., Chernov G., Hennig-Schmidt H., Kuznetsova O., Ryzhkova M., Walkowitz G. Centralism and Local Connectedness Shape Social Preferences in Inter-regional Bargaining – Evidence from Russia
- *Work in progress* Chernov G., Sofianos A., Susin I. Recognition Complexity in repeated games

DEVELOPED SOFTWARE

A python version of R package for computing asymmetric Shapley values to assess causality in any trained machine learning model

TEACHING EXPERIENCE

- Behavioral and Experimental Economics, guest lecturer (bachelor, HSE)
- Student Term / Thesis Papers (bachelor; master, HSE / NSU)
- Microeconomics for finance, lecturer assistant (bachelor, HSE)
- Risk management, lecturer assistant (bachelor, NSU)
- Project management, practices course coach (bachelor, NSU)
- ICEF evening school, lecturer (high school students)