TATIANA SOROKINA

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PROFILE

As an outstanding student of the Economics and Statistics program at a leading Russian university, I am well-aquainted with international research community through my studies and work experiences. My academic and professional expertise is in Applied Statistics, Macroeconomics, and Data Science, and I intend to pursue a career in economic research, concentrating on applying Computer Science to Economic Theory.

ACADEMIC INTERESTS

- Machine Learning for Economic Theory
- Computational Economics
- Economic Dynamics
- Fluctuations / Business Cycles
- Macroeconomics
- Stochastic Processes

EDUCATION

Bachelor of Economics and Statistics, Higher School of Economics   Expected 2023
- CGPA 4.6/5.0, top 5% of the program (cohort size 135)   *Moscow, Russia*
- Full scholarship for high academic performance
- Membership in Erasmus Student Network HSE, HSE for kids, HSE Counselors' School
- Minor in Data Science
- Relevant Coursework: Advanced courses in Statistic Methods, Econometrics, Machine Learning and Deep Learning; Finance Modeling, Macroeconomics, Stochastic Processes, Game Theory, Dynamic Optimisation

Cycle Ingénieur, Statistics, 2nd year, ENSAE - IP Paris   Spring Semester 2022
- Exchange semester at a leading statistic grande école, courses in the French language   *Palaiseau, France*
- Won a merit-based scholarship named after Prof. Lev Lyubumov to finance my studies
- Coursework: Financial Mathematics, Advanced Econometrics, International Trade, Linear Time Series

EXPERIENCE

Research Internship   Feb 2023 - present
HSE, Laboratory of Macro-Structural Modeling of the Russian Economy   *Moscow, Russia*

- Development of the solution algorithm (Pytorch) and verification of the theoretical base for the project on neural networks usage for solving high-dimensional empirical dynamic stochastic general equilibrium models

Teaching assistant for Bachelors students   Sep 2022 - present
HSE, Faculties of Economic and Computer Sciences   *Moscow, Russia*

- Macroeconomics-1, lecturer Irina Kavitskaya; Macroeconomics-2, lecturer Olga Osotova
- Introduction to Deep Learning, Applied Data Analysis Problems, lecturer Evgeny Sokolov
- Prepared and graded homework assignments; conducted consultations for students; searched for reference materials; assisted in organisations of the exams

Research Internship in Computational Economics with Pablo Winant   Jul 2022 - Aug 2022
Center for Research in Economics and Statistics (CREST)   *Palaiseau, France*

- Follow-up research for the article "Deep learning for solving dynamic economic models"
- Created Neural Network algorithm (in tensorflow and JAX, Python) for solving basic dynamic economic models; reviewed existing theoretical frameworks of Deep Learning usage for Computational Economics

Operations Research Analyst   Nov 2019 - present
Agricultural biotech startup Biofarminvest Ltd.   *Ramenskoye, Russia*

- Internships from 2018 to 2020, paid part-time job afterward
- Optimised production and delivery operations; suggested extension of the product line; advised changes in production process; developed client-relations system; managed international clientele and research contacts

RELEVANT RESEARCH PROJECTS

Monetary Policy in a HANK Model With Occasionally Binding Constraints   Sep 2022 - present
HSE, Faculty of Economic Sciences   *Moscow, Russia*

- Bachelor's Thesis (working) paper, is being written under supervision of Nikolay Pilnik
- The proposed DSGE model includes binding constraints for low-income consumers and higher individual unemployment risks during economic recessions. It is solved via a neural network and calibrated on the US data with a Bayesian estimator from the ML approach, which grants higher computational speed.

Analysing Russian Central Bank Communication Impact on Monetary   Sep 2022 - Jun 2022
Policy Effectiveness with Natural Language Processing   *Moscow, Russia*
HSE, Faculty of Economic Sciences

- Third-year term paper, written under supervision of Mariam Mamedli
- Computation of the informational (semantic) component in the CB's press releases via Natural Language Processing tools; exploration of high-frequency monetary shocks as instruments in a SVAR model of the economy.

SKILLS

Languages	Russian (native speaker),
	English (advanced, TOEFL 110/120),
	French (upper-intermediate, self-study; expect to pass DELF B2 by Sep 2023),
	German (pre-intermediate, intensive courses; expected intermediate by Sep 2023)
Programming	Python, R (Data Analysis; Deep Learning - general, for computer vision, sound, NLP;
Languages	Machine Learning, Web Scraping; Modeling, Forecasting), SQL (Postgre, Server), Matlab
Other Software	LaTex, Google Colab, Hadoop, PySpark, Stata, EViews, Gretl, Microsoft Office (advanced)
Soft Skills	Adaptability, Problem-Solving, Teamwork, Attention to Detail, Concise Instructions

OTHER ACTIVITIES

ESN HSE Buddy program   Sep 2021 - present
Helping international students adapt to living in Moscow; active member of ESN HSE   *Moscow, Russia*
HSE for kids; HSE Counselor's School Organisation   Mar 2021 - Dec 2021
Volunteering as counselor in a city summer camps for disadvantaged children;   *Moscow, Russia*
teaching students the counselor position in an oficial project of HSE student organisation
1st place in a Statistical Marathon   Apr 2021
Student competition in statistical methods for HSE FES students   *Moscow, Russia*
Swing-Trading Competition   Jan 2021 - Mar 2021
Top 5% (12/350 sudents); the least volatile high-performance portfolio. Return 30% in 1.5 months *Moscow, Russia*
Student Economic Conference Organisation   Mar 2020
English conference for the HSE students (from four HSE campuses), 25 participants   *Moscow, Russia*
Volunteering at my school   Sep 2019 - Dec 2021
Training in Math and English for middle- and high-school students; creating a Museum   *Lyubertsy, Russia*
of National Games for elementary school; career orientation talks for high-school pupils
Municipal-level participation   Sep 2015 - May 2019
Mandate to the Youth Parliament (Molodezhnyj Parlament) and participation in its sessions; *Moscow, Russia*
representing the views of young Lyubertsy citizens in the regional development debates