Elena Khusainova

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Education

- **Yale University**, USA 2014-2020
  PhD in Statistics and Data Science
  Advisors: David Pollard, Yihong Wu
  Research interests: *random matrix eigenvalues properties, perturbation theory, respondent driven sampling, Markov chains, interpretable machine learning.*
- **Lomonosov Moscow State University**, Russia 2007-2012
  BSc and MS in Mathematics, GPA 3.9, diploma with honors
  Thesis: *Urn schemes and their applications: drawing from an urn with big variety of colors,* with professor Andrey Zubkov.

Internship and work experience

- Lecturer at the department of Statistics and Data Science, Yale University 2020-present
  - taught Statistical Case Studies (S&DS 425), Intro to Stat: Data Analysis (S&DS 106), Data Analysis (S&DS 661) and YData: An Introduction to Data Science (S&DS 123)
- Technical PhD Intern for AT&T Labs Research summer, 2018
  - worked with big data: DIRECTV viewership
  - introduced visualization approach to reveal user behavioral patterns
  - designed variables from raw data to capture viewer behavior which enabled classification and prediction of TV viewership
- Statistical Consultant for Center for Science and Social Science Information, Yale University 2017-2019
  - supported researchers throughout the university in need of statistical analysis
  - created and led monthly workshops for 30+ participants with various backgrounds

Collaboration experience

- Research project with AT&T Labs Research 2018-present
  Rule-based Classification for Positive, Negative and Ambiguous Cases.
  - developed a new algorithm addressing limitations of an older one
  - independently built R package with implementation of both algorithms
- Data Programmer for the Environmental Performance Index, Yale University summer, 2017
  - built an R Shiny visualization and data exploration tool for non-technical users
- Research Assistant for Environmental Performance Index, Yale University summer, 2015
  Data scraping, data analysis and visualization.
- Research project with professor Claire Bowern, Linguistics Department, Yale University 2015-2016
  Random Forests for Language Classification.

Programming and related skills

- **R**
  Data analysis, visualization (ggplot, Shiny), web scraping, C/C++ interface, writing R extensions, RCloud, working with big data.
- **Python**
  Data analysis, visualization, web scraping.
- **C/C++**

Beginner.

- Also familiar with: **HTML/CSS, LaTex, SQL, Bash**

Teaching experience

- Teaching assistant for:
  - Data Mining and Machine Learning (S&DS 365/565), Yale University — spring, 2020
  - Statistical Case Studies (S&DS 425b), Yale University — spring, 2020
  - Introduction to Statistics (S&DS 101a-109a/501a-509a), Yale University — fall, 2019
  - Statistical Case Studies (S&DS 625a), Yale University — fall, 2019
  - Statistical Computing (S&DS 662), Yale University — spring, 2018
  - Advanced Probability (STAT 330b/600b), Yale University — spring, 2017
  - Applied Data Mining and Machine Learning (STAT 365b/665b), Yale University — spring, 2017
  - Introductory Data Analysis (STAT 230a/530a), Yale University — fall, 2016
  - Introduction to Statistics (STAT 107), Yale University — summer, 2016
  - Data Mining and Machine Learning (STAT 365b/665b), Yale University — spring, 2016
  - Introduction to Statistics (STAT 101a-106a/501a-506a), Yale University — fall, 2015
- High School Mathematics teacher, Moscow State 57th school, Russia — 2012-2014
  Curriculum included: linear algebra, calculus, graph theory, mathematical analysis.