

Anna Nazarova, Ph.D.

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Summary

Research data scientist with an academic degree in Applied Mathematics (special focus on Probability and Statistics). Extensive expertise over six years with proven track record in various types of modelling: econometric and statistical predictive experimental models, partial integro-differential equations, stochastic simulations and analytic solutions, machine learning algorithms (decision trees, neural networks, etc.).

Practical experience with application in financial time series. Particularly, researching the dynamics of energy commodity prices (European exchange data sets: power, oil, gas), equities and various types of financial derivative instruments.

Professional Experience

Since 03.2017	Freelance data scientist Performing data science contracting jobs, projects include: creating recommendations system for a webshop, performing customer data analysis for a cafe, analysing GPS tracking data to identify human trajectories, optimising transportation costs for an online retailer, building a predictive model for oil and gas exploration data. Technologies used: Python pandas, numpy, scikit-learn, tensorflow.
01.2016 09.2016	Quantitative researcher, WorldQuant LLC (Affiliate of Millennium Management), Bangkok, Thailand Performing quantitative research for a global equity statistical arbitrage fund with a portfolio size of US\$18 billion long and short, analysing and constructing automated trading signals from large data sets, including news, fundamental, options etc. Exploiting a variety of research techniques to develop alphas (more than 100, with backtested Sharpe >2), ranging from simple statistical analysis for time series and cross-sectional data. Technologies used: C/C++ and Python for implementing algorithms to find alphas.
03.2014 12.2015	Postdoctoral researcher, Chair of Applied Statistics and Stochastics, Duisburg-Essen University, Germany Investigating statistical inference of the Lévy density for a well-balanced Ornstein-Uhlenbeck process. Supervisor: Prof. Denis Belomestny. Technologies used: Matlab for numerical simulations of statistical errors.
06.2009 12.2009	Research assistant, Centre of Mathematics for Applications, Oslo University, Norway Conducting empirical analysis of electricity spot price modelling and developing pricing derivatives techniques in incomplete markets. Supervisor: Prof. Fred Espen Benth. Technologies used: Matlab and R for numerical implementation of predictive models.
04.2008 07.2008	Intern, Bayerische Hypo- und Vereinsbank, Munich, Germany Developing, analysing and backtesting investment trading (momentum and contrarian) strategies to help internal asset managers on investment process. Technologies used: VBA for building and testing investment strategies.

Education

01.2010 02.2014	PhD in Applied Mathematics. Thesis title: <i>Stochastic Models for Energy Markets: Statistics, Pricing and Model Risk.</i> Supervisors: Prof. Rüdiger Kiesel (Duisburg-Essen University) and Prof. Fred Espen Benth (Oslo University). Graduated with Great Honor (Magna Cum Laude), awarded to top 10% of graduating cohort. Duisburg-Essen University, Germany
10.2006 02.2009	MSc in Financial Mathematics, Ulm University, Germany Thesis title: <i>Lévy-based electricity spot price modelling.</i>
09.2001 07.2006	Diploma in Mathematical Methods in Economics. Graduated with Distinction, awarded to top 5% of graduating cohort. Saint-Petersburg State University, Russia

Selected Publications

F. E. Benth, R. Kiesel and A. Nazarova: **A critical empirical study of three electricity spot price models.** Energy Economics journal, Vol. 34 (2012) No 5, p. 1589 – 1616.

K. Bannör, R. Kiesel, A. Nazarova and M. Scherer: **Parametric model risk and power plant valuation.** Energy Economics journal, Vol. 59 (2016), p. 423 – 434.

Skills & Activities

Coding: Matlab, C/C++, Python (Numpy, Pandas, Scikit-learn, TensorFlow), R, VBA

Languages: Russian (native); English (advanced); German (intermediary)

Hobbies: Photography, Scuba diving, Rainforest trekking