

KIRILL ZAKHAROV

Applied Mathematician

@ kirill.zakharov00@mail.ru 89236751055
www.researchgate.net/profile/Kirill-Zakharov-4

Saint-Petersburg, Russia

https://github.com/kirillzx

EXPERIENCE

- Engineer
ITMO University, Russia
Oct 2022 – present

SKILLS

- Applications of Stochastic Calculus and Measure Theory (SDE, stochastic integral, stochastic processes, Ito calculus)
- Applications of Probability theory (probabilistic modelling)
- Pricing derivatives (forwards, European options pricing, measure change, binomial model)
- Optimization methods and Numerical Analysis
- Neural Networks architectures (CNN, RNN, GAN, Flows, Diffusion models, VAE)
- Synthetic data generation (time series, tabular data, transactions)
- Mathematical modelling (building physical and economic models)
- Forecasting Models by Time Series
- Programming languages: Python, Wolfram Mathematica, C
- Python libraries: torch, keras, numpy, pandas, scipy, sklearn, statsmodels, fbprophet

EDUCATION

B.S. in Applied Mathematics and Informatics
SPbSUE

Sept 2018 – June 2022

M.S. in Financial Technologies of Big Data
ITMO

Sept 2022 – June 2024

GRADUATE WORKS

- B.S.:** Generalization of the Bates model by stochastic correlation and stochastic interest rate

Found the exact solution by characteristic function of the affine jump diffusion system of stochastic differential equations and applied by Fourier transform to pricing European options. Found almost-exact solution under Q -measure. Applied measure transform $Q \rightarrow T$ and found almost exact-solution under T -measure.

- M.S.:** Synthetic transaction data generation with privacy preserving

PUBLICATIONS

- Synthetic financial time series generation with regime clustering, 2023

COURSES

- Pricing Options with Mathematical Models, Caltech - Coursera, 2022
- Stochastic Processes, HSE - Coursera, 2022
- Probability Theory, CSC - Stepik, 2022

COMPETITIONS

- 1th place – ITMO HACK FinTech case, 2022
- 5th place – Rosneft Hackathon, 2022
- 3th place – GPN CUP Data Science, 2021
- top 30% – Pet Finder, Kaggle, 2020

LANGUAGES

Russia
English

