

# IVAN VOROBIOV

Quantitative Analyst & ML Researcher

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## EXPERIENCE

Senior Quant / Data Scientist

Sber

Nov 2021 – Ongoing

Moscow

- Exotic options pricing
- Deep generative models for time series imputation
- Classic ML Models for Anomalies Detection

Research Assistant

Research Grant (supervised by Prof. A.Ya. Kanel-Belov)

Sep 2019 – Ongoing

Moscow

- Abstract Algebra (representations of profinite groups)
- (Topological) Galois Theory

## PROJECTS

Universal American-Style Derivatives Pricer

Sber & MIPT

Managed a team of 3 persons

- Comparison: Regression Based MC vs Reinforcement Learning
- Universal API for any american-style derivative
- Quasi Monte Carlo and other convergence improvements will be implemented soon
- Open repo [v0r0bi0v/AmericanOptionsPricingApproaches](#)

Testing Diffusion TS Models on Stochastic Processes

Sber & YSDA

Most SOTA generative time series models are tested only on large industrial datasets — a flawed approach for this emerging field. We demonstrated their failure on low-dimensional stationary stochastic processes. We created the new architecture, that performs much better.

While project details/architectures are under NDA, our open presentation is available: [v0r0bi0v/TS-Diffusion-on-Stoch-Processes](#)

## PUBLICATIONS

- Vorobiov, Ivan. (2021). "On the Linear Independence of Radicals". *Matematicheskoe prosviashchenie*, 28.
- Kanunnikov, Andrey & Vorobiov, Ivan. (2021). "Linear Independence of Radicals". *Kvant*, 3.

## STRENGTHS

Python C++ C#  $\text{\LaTeX}$

Monte Carlo Methods Mathematical Finance

Classic ML Models Deep Generative Models

Reinforcement Learning a bit of NLP

## OLYMPIADS

Moscow Mathematical Olympiad (2019)  
Winner

Tournament of Towns (2019)  
2nd degree prize-winner

Russian Olympiad in Mathematics (2018)  
Certificate of Appreciation (1 point lower than prize-winner)

## LANGUAGES

Russian ● ● ● ● ●

English ● ● ● ● ●

## EDUCATION

M.Sc. in Mathematics  
Higher School of Economics

June 2026 (expected)

B.Sc. in Mathematics  
Higher School of Economics

June 2024

Graduate  
Yandex School of Data Analysis

June 2025

Summer School "Modern Mathematics" (2018-19)  
Student

Combinatorics and Algorithms (2017-21)  
Student & Assistant