# Nikolay Pogrebnikov

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A university student with a strong interest in statistics, data analysis, and machine learning, eager to apply knowledge and skills to real-world problems while continuously developing expertise in the field.

## Skills

- Languages: Python, R, Java, C++, C#, SQL.
- Analytical Skills Experienced in data analytics, and statistical modeling.
- ML and Data Technologies: PyTorch, numpy, pandas, matplotlib, Docker, Apache Kafka, SQLite.
- Natural Languages Native Russian, Intermediate English.

## **Education**

## Saint Petersburg State University

September 2021 – Present

Bachelor's Degree Applied Mathematics and Computer Science

Relevant coursework:

Data Analysis, Machine Learning, Object-Oriented Programming, Statistical Analysis, Applied Statistics, Probability Theory.

#### **Courses and certifications**

- Fundamentals of statistics
- Yandex algorithm training 2.0 (No certificate)
- Interactive SQL Simulator
- Yandex ML training 1.0 (No certificate)

September 2022 – October 2022 August 2024 – September 2024 November 2024 – December 2024 January 2025 – February 2025

# **Practical Experience**

## Data streaming with Kafka Streams

September 2022 - December 2022

Research work and Telegram Bot Development

- Developed a Telegram bot in C# for event management at the Far Eastern Federal University (FEFU), automating tasks such as registration and providing event information
- Using Apache Kafka for real-time message processing, event handling, and facilitating communication between the Telegram bot and the SQLite database
- Result in the form of a coursework text, Kafka application and Telegram bot

## **Function Optimization Methods with Qt**

November 2024 - December 2024

Research work and GUI Application Development

- Developed a C++ Qt-based application for optimizing mathematical functions, implementing methods such as Random Search and Newton's Method
- Designed an interactive graphical interface to visualize optimization processes, including contour plots and user-defined search areas
- Source code and documentation available on GitHub

## Nekrasovka newspaper to radio

April 2025 - April 2025

Yandex Student Camp "Generative AI and robots"

- Teamwork in converting old newspaper scans into radio broadcasts using CV and LLM.
- My contribution is to convert newspaper scans into bounding boxes with labels using OCR and Yolo model.
- The result is in the form of a presentation and a github repository

# SSA for time series, variants of Circulant SSA, comparison of methods

September 2023 - Present

Research work

- Worked on singular spectrum analysis (SSA) method for dividing time series into components such as trend, seasonality, noise
- Implementation of Circulant SSA modification in R language and comparing it to the basic SSA
- Intermediate result in the form of a coursework text