Egor **Sennov**

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Education

BS in Applied Mathematics and Computer Science   *Moscow, Russia*

NATIONAL RESEARCH UNIVERSITY – HIGHER SCHOOL OF ECONOMICS   *Sep. 2023 - Jun. 2027*

- **Relevant CS courses:** Python, Algorithms and Data Structures, Kotlin Mobile Development, C++
- **Mathematical courses:** Linear Algebra and Geometry, Calculus, Дискретная Discrete Mathematics, Number Theory

Experience

Yandex: Plus and Fantech DWH Content Services Team   *Moscow, Russia*

DATA ENGINEER   *October 2024 - February 2025*

The team develops ETL processes covering the main data domains, and also helps to develop the architecture of product development services. Stack: Python, SQL, YQL, ClickHouse, YTsaurus.

- Optimized the operation of data pools by reducing CPU consumption, which reduced the execution time of ETL chains.
- Accelerated data collection for analytics by switching tasks to using more efficient algorithms.
- Was the first member of the team to use ClickHouse functions, which improved the accuracy of calculations and significantly improved the speed of aggregations.
- Has built processes for working with new data sources, including processing new logs and offline downloads.
- Unloaded the backend capacity by transferring calculations to our team's side.

Yandex Backend Development School   *Moscow, Russia*

BACKEND DEVELOPER   *Summer 2024*

The team has been developing a platform for creating interactive longreads using FastAPI and PostgreSQL, which supports multimedia and user progress tracking.

- Implemented an authorization system based on FastAPI and Passlib, implemented JWT tokens for access control.
- Used SQLModel to work with PostgreSQL via ORM, configured automatic migrations with Alembic.
- Integrated Yandex Object Storage for storing files using Aioboto3, made endpoints for secure file management.
- Configured fault tolerance using Nginx for load balancing.
- Wrote automated tests with Pytest to test the key features of the platform.

Skills

Programming Languages   Python (3.13), C++ (23), C, Assembler x86-64, HTML, CSS, JavaScript, Kotlin, MQL4
Software & Tools   Git, LaTeX, SQL

Projects

REST API and browser extension that allows you to create and store notes with comments. ↗

- API based on FastAPI and SQLalchemy that allows you to create, store and modify notes.
- The OAuth2 scheme is used for registration and authentication of users.
- Chrome extension allows you to create notes from selected text.

A robot advisor that simplifies trading in the terminal RoboForex - MetaTrader 4 ↗

- A bot that allows you to automate the placing and closing of orders with customizable parameters
- An interface that can be connected to a trading terminal and used to control a bot

Telegram bot with an up-to-date schedule for BAMI students at the HSE ↗

- A bot class has been developed to simplify working with the python-telegram-bot library
- Implemented automatic updating of the lesson schedule and registration of users in the database

A module for working with polynomials in python ↗

- A class of polynomials has been created from scratch, which contains terms with different degrees of the variable and the remainder in the form of a regular irreducible fraction
- Implementations of FFT and IFFT algorithms, gcd finding functions for polynomials have been created
- The module also makes it possible to work with fractions

Program for editing BMP files ↗

- The program is written in raw C++ without the use of third-party libraries for image processing.
- Filters have been created that process images by applying matrices to pixels, as well as using more complex algorithms to implement their functionality.
- Unit-tests have been written to verify the correctness of the main program and its filters.

Extracurricular

Языки

- Russian (native)
- English (fluent)
- German (elementary)