

# Egor Sennov

Moscow, Russia

☎ +7 (967)-174-69-30 | ✉ esennov2005@gmail.com | 🌐 SennovE | 📧 sennov

## 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 Backend Development School

Moscow, Russia

BACKEND DEVELOPER

Summer 2024

Developed a platform-constructor of interactive longreads for creating and managing internal employee training courses using FastAPI and PostgreSQL. The platform supports the integration of multimedia elements and tracking of user progress.

- **User authorization:** Implemented a user registration and authorization system using FastAPI in combination with Passlib for password hashing and data protection. Configured mechanisms for generating and validating JWT tokens for authentication, which allowed for secure management of user sessions and restricting access to protected resources.
- **ORM SQLAlchemy:** Used SQLAlchemy, which combines the capabilities of SQLAlchemy and Pydantic, to create and manage data models. This simplified the process of working with the PostgreSQL database, providing convenient model definition, data validation, and their interaction with the database via ORM. Configured models for automatic migration generation via Alembic.
- **Integration with Yandex Object Storage:** Configured and implemented interaction with Yandex Object Storage for storing and managing files, used the Aioboto3 library for asynchronous interaction with cloud services.
- **Storing and transferring files:** Wrote endpoints and developed a mechanism for uploading, storing and transferring files, including creating unique identifiers for each file and storing metadata in a database. Files were uploaded to Yandex Object Storage, and links to them were transferred via API, which ensured safe and efficient work with files.
- **Fault tolerance:** Configured Nginx as a load balancer between a group of backend servers.
- **Testing:** Conducted automated testing using Pytest to test platform functions such as user registration and authorization, article processing, and file management.

## Skills

**Programming Languages** Python (3.13), C++ (20), Kotlin (1.9), 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 BAMU 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.

Языки

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