



## MY CONTACTS

✉ belyaevalex2007@gmail.com

📍 Białystok

## EDUCATION

### School N61 Minsk

2013-2023

Average score 8.8/10

### Technikum INFOTECH

2023-Now

Average score 5.84/6

## COURSES

### RS school course Machine learning

2022 - 2022

Place 30/1500

### DeepLearning.AI TensorFlow Developer

2022 - 2022

4 courses

### Machine Learning by Stanford University

2021 - 2021

### Docker by Udemy

2023 - 2023

### Neural Networks and Deep Learning

2025 - 2025

## LANGUAGES

Polish	<b>B2</b>
English	<b>B1+</b>
Belarusian	<b>Native</b>
Russian	<b>Native</b>
Spanish	<b>A1+</b>

# Belyaev Alexander

Python developer /

Data Scientist / AI developer

## ABOUT

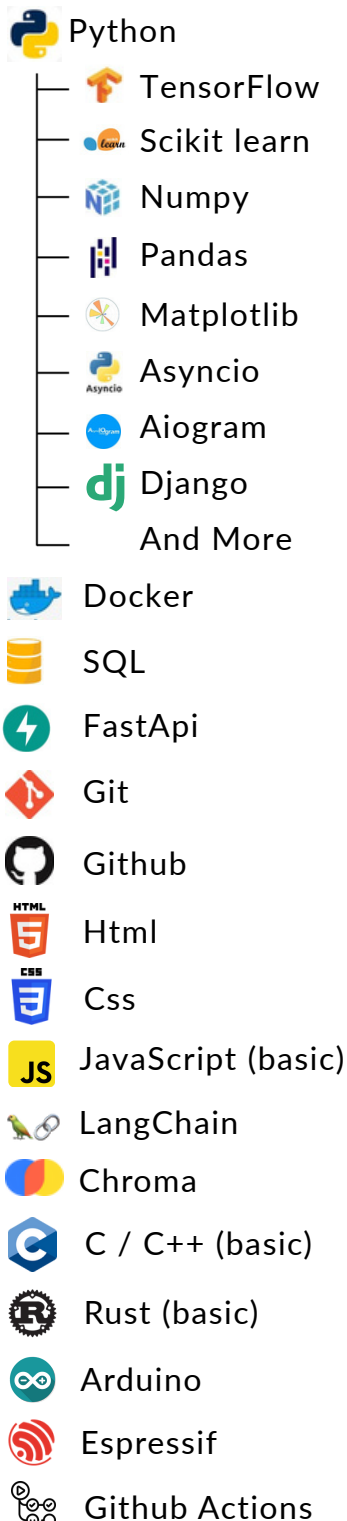
18 years

29.05.2007

### 7 years programming in Python

Python developer and AI/ML engineer with 7+ years of programming experience and a strong grounding in mathematics and logic. Laureate of national and international Olympiads, with proven analytical and problem-solving skills. Completed advanced ML training (incl. Stanford's Machine Learning) and placed in the top 2% of the EPAM program. Focused on building reliable, production-ready AI systems and continuously improving model quality and developer productivity.

## SKILLS



## EXPERIENCE

### Voice grammar checker

Telegram bot analyzes your voice messages through various APIs, detects pronunciation errors and sends them back in written form. This platform based on SAAS. I created it to test the algorithm for my startup's idea

### Mesh Communication System – Embedded/IoT Engineer

Contributed to a device-to-device mesh communication system for consumer smart-home hardware (Raycon). Implemented the mesh layer with root/child topology, broadcast/unicast routing, and MAC addressing utilities. Designed a closed-by-default security model with short, time-boxed pairing windows: users explicitly enable pairing mode to enroll a new node into a local whitelist. Defined an extensible JSON messaging contract for inter-device communication and helper routines for addressing/serialization. Focused on runtime reliability and responsiveness by arranging task placement and startup sequencing (core affinity, priorities, bounded delays), with clear state handling and timers throughout the pairing lifecycle. Tech: ESP-IDF (FreeRTOS), esp\_mesh\_lite, C, Wi-Fi (AP/STA), cJSON, NVS

### Shelf-Aware Counting System

Built a shelf-aware counting system using two YOLO models: a lightweight people-tracker triggered the workflow on room entry→exit, then the main detector counted boxes/packs and mapped them to specific rack sections for precise per-shelf totals. Maintained structured logs with timestamps and per-shelf diffs, and saved images with drawn bounding boxes for auditability. Aggregated datasets from multiple sources and normalized them to a single training format. Tech stack: Python, YOLO, OpenCV, NumPy, Pandas, asyncio, structured logging

### Internal currency for technical schools

I am a project leader with a team of 10 people. Currency motivates the students. I lead the project, integrate modules and write code myself in my spare time. The site allows transfers between students and teachers, includes an order store, interactive and QR-search for users, and an admin panel for the technical school

## WORK EXPERIENCE



### Freelance

Sep 2023 - Jan 2023

Built chatbots for different messengers and to automate conversations and internal workflows. Integrated external AI services via API; handled request/response logic, validation, and admin commands.



### ML Engineer

Jan 2024 - June 2024

Implemented and debugged real-time computer-vision algorithms for object/motion detection. Develop Shelf-Aware Counting System project. Delivered working prototypes, unit tests, and concise technical notes.



### Python dev. / AI developer

Nov 2024 - Present

Developed an AI training module and handled prompt engineering. Built an assistant improvement and fine-tuning system tailored individually for each client and each specific scenario.

## Assistant with knowledge base

It's a site for communicating with an assistant that has a local knowledge base: using various methods, it searches for relevant text passages and, using the selected model, generates a response. When choosing Llama, everything works locally, without an Internet connection. Also it works as SAAS

## AI-powered Educational Testing Platform

Platform built on a RAG architecture with semantic search that cuts test creation time by ~60x. It combines ChromaDB (HNSW) with OpenAI GPT-4/o3 and text-embedding-3-large, custom semantic chunking, Multi-Query Expansion, and HyDE for high-quality retrieval. The Django/Python backend ingests PDF/DOCX/PPTX via async pipelines (LangChain, Sentence Transformers, PyPDF) and maintains per-user isolated vector collections with hierarchical parent-child indexing, delivering sub-100 ms queries across millions of vectors

## SMM bot

The bot streamlines social media work, generates ideas for posts and videos in all formats, helps devise a strategy, creates schedules, and reminds you about them

## VOLUNTEERING

### European Solidarity Corps — Terzo Millennio

Jun 2025 – Aug 2025

Supported the planning and delivery of daily educational and recreational activities in an inclusive, intercultural setting; assisted logistics and coordination with the host organisation. Worked directly with Italian children aged 6–11 who did not speak English, adapting activities through visuals, demonstrations, basic Italian phrases, and non-verbal communication to ensure safety, participation, and engagement. Facilitated small-group tasks, prepared short instructions/recaps, and kept simple activity records (attendance, materials). Built teamwork, time management, and public-speaking skills in a multilingual environment (EN/PL/RU; basic IT).

Space for future volunteering :)

## HARD SKILLS

Python, Django, FastAPI, Asyncio, REST APIs, JSON, Aiogram; Machine Learning, Deep Learning, NLP, Retrieval, RAG, Vector Search, Embeddings, Multi-Query Expansion (MQE), HyDE, ChromaDB (HNSW), LangChain, OpenAI API, Sentence Transformers, Model Evaluation, A/B testing; Pandas, NumPy, scikit-learn, TensorFlow, Matplotlib; SQL, PostgreSQL, ORM; Docker, Git, GitHub Actions, CI/CD; ESP-IDF, FreeRTOS, C, esp\_mesh\_lite, Wi-Fi (AP/STA), NVS, cJSON, core affinity, task scheduling, timers; Profiling, logging, monitoring

## SOFT SKILLS

Analytical thinking, Complex problem solving, Ownership, Reliability, Stakeholder communication, Time management, Prioritization, Early-stage leadership, Mentoring & code review, Documentation, Attention to detail, Systems thinking, Adaptability & fast learning.

## INTERESTS

Hardware prototyping & electronics (soldering, PCB), Edge-AI & embedded systems, IoT/mesh networking, Applied mathematics, Bioengineering & computational biology, Automotive systems, Quantitative finance/fintech, Strength training, Volunteering & community projects, Language learning, DIY.

## LINKS



GitHub

[github.com/BelyaevAlex](https://github.com/BelyaevAlex)



LinkedIn

[linkedin.com/in/alexander-belyaev](https://linkedin.com/in/alexander-belyaev)