

Alexander Sokolov

Senior Python Developer (Backend, Data Collection)

33 years old. Full time, remote. Not open to relocation or business travel.

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ABOUT ME

Python developer with over 8 years of commercial experience. Main specialization: large scale data collection and anti-bot bypass. I also have backend experience with enterprise systems on Django.

I work with TDD. I can take a task end to end: design the architecture, implement it, deploy it and support it. I try to solve not only my own ticket but also the team's problems when I see they can be removed, like I did with environment deployment at Tsifra.

How I can help:

- data collection systems that handle large volumes and adapt easily to changes on the sources
- bypassing Cloudflare, captchas and browser fingerprint detection, browser automation
- backend and integrations on Django and Flask, queues, Redis, PostgreSQL
- development infrastructure: deployment, environments, CI/CD

Besides Python I build embedded devices in C++, so I have a good understanding of security and how systems work at a low level.

WORK EXPERIENCE

ProtoKey, own project · Developer

2025 - present

Hardware password manager. Took the project from idea to preorders on Planeta.ru (Russian crowdfunding platform).

- Developed C++ firmware for ESP32-S3: 3.5" touchscreen, password input over USB HID (the device works as a keyboard), web interface over Wi-Fi.
- Implemented data protection: AES-256 encryption, Secure Boot and flash encryption, fully autonomous operation without any cloud.
- Learned circuit design, soldering and hardware debugging on my own.

Tsifra · Python Developer

February 2022 - August 2024

Core team of an international enterprise system for monitoring mining equipment. The Django web panel receives sensor readings, manages their state and visualizes data, the system generates analytical reports for mines.

- Moved the KVS storage from Django ORM to Redis. Wrote a custom database manager that redirects ORM queries to Redis through configuration, with no changes to application code.
- On my own initiative built a project deployment tool. Because of the many layout options, the local environment used to be assembled slowly and by hand. After rollout the project deploys with one command on a clean Linux, and switching between production environment variants works the same way. Frontend developers became able to keep their test backends up to date on their own.
- New features, bug fixes, refactoring, test coverage, code review.

KRIPTON · Python Developer

June 2019 - January 2022

BreachReport project, a forum monitoring startup. Responsible for the data collection system, from design to operation.

- Designed and built a system collecting data from 100+ forums as a set of microservices.
- Created a Scrapy based framework: a universal forum crawling algorithm, plugins for user behavior emulation and captcha bypass, a convenient API for developers. Adding a new forum came down to configuring ready made tools, which noticeably sped up scaling.
- Developed stateless microservices for data processing, media downloading and browser management on Flask and Django with Dramatiq and RabbitMQ queues. Load up to 10 million messages per day.
- Compared an async API against queues and chose queues as the more efficient solution for this load.
- Took part in setting up and supporting servers and CI/CD.

Freelance · Python Developer

January 2016 - February 2019

Turnkey development: discussing the task with the client, writing the spec, estimating time and cost, implementation and delivery.

- Scrapers and bots for websites, Telegram bots, websites, system utilities for Linux.

SKILLS

Backend: Python, Django, Flask, PostgreSQL, Redis, RabbitMQ, Dramatiq, Celery

Data collection: Scrapy, Playwright, Selenium, anti-bot and captcha bypass

Infrastructure: Linux (Debian, Ubuntu), Docker, Git, CI/CD

Practices: TDD, microservice architecture, code review

Embedded: C++, ESP32, USB HID, cryptography

Languages: Russian (native), English (B2, conversational)

PROFESSIONAL ACTIVITY

- ru.stackoverflow: 140+ answers, 2700+ reputation, questions on Python, Django and scraping (ru.stackoverflow.com/users/362019/alex)
- GitHub: tools for Selenium and hCaptcha bypass (github.com/alexsok-bit)
- Medium: 9 technical articles on Selenium, captcha bypass, caching in Python and Linux
- Twitch: development streams, from Python backend to C++ firmware

EDUCATION

Samara State Transport University

Applied Mathematics and Computer Science, incomplete higher education