Aleksey Lobanov

Lead Software Engineer

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Education

2019 – 2021   **Moscow State University**, *Faculty of Computational Mathematics and Cybernetics*, Applied Mathematics and Cybernetics, Master of Engineering (M.Eng.).

Employment History

Jun 2020 – Now   **Senior Backend Engineer**, SBERDEVICES, Moscow.

3 connected projects in one big department with overlapping engineering teams.
1. Worked on architecture and MVP for Visper.tech.
2. Integrated abandoned ML solution for video generation to Visper.tech backend.
3. Created and launched a widget backend with complex architecture and Python/Golang components. $\geq$ 500k active devices each day and $\geq$ 10k RPS average.
4. Led backend development for news and widget including architecture and tech communications with other teams.

Stack: Golang, Python, Django + FastAPI, Postgres, RabbitMQ, Redis/KeyDB, Prometheus + Grafana, Traefik, GitLab CI, Sentry, Docker.

Mar 2018 – Jun 2020   **Python Developer**, KVINT, Moscow (remote work).

The platform for e2e robot calls with call state (we used FSM) and external API calls during them. High scalability and no-code approach for most of the functions.
1. Worked on core FSM part, integrated Lua scripting and testing concepts with coverage monitoring.
2. Created from scratch in-place replacement for the main dialing component, up to 100 simultaneous calls on each server and millions of calls each month.
3. Was responsible for integration with custom STT (Speech-to-Text) library on CUDA cores. Used C++ for near-zero overhead.
4. Created scalable and fault-tolerant services architecture for most of the backend tasks.
5. Integrated custom VAD (Voice Activity Detector) with Websockets, about 80% STT load reduction.
6. Integrated ML pipeline for NLU with a custom dictionary and data for each client. Used Google Compute with dynamic instances for about 95% training cost reduction.

Stack: Python + pytransitions for FSM, Websockets, Lua for scenario scripts, C++, Asterisk, MongoDB, MySQL, RabbitMQ, Docker.

Jul 2017 – Feb 2018   **Python Developer**, KRISTA, Moscow.

Telegram chatbot for open data that can understand queries in natural language.
1. Integrated code metrics + static code analysis as part of the CI process.
2. Redesigned data process to get measurable results for each commit.
3. Reimplemented queries building process to ML-approach with a big step up in performance from about 80% to 98% on test data.
4. Managed tech debt reduction process.

Stack: Python3 + scikit-learn for ML, Apache Solr, Telegram API.

Skills

Languages	Python, Golang, C/C++, Lua, SQL
Technologies	RabbitMQ, Docker, S3 (including Minio), Prometheus/Grafana, Sentry, GitLab CI, Linux
Frameworks	FastAPI, Django, aiohttp, scikit-learn
Databases	MySQL/MariaDB, Postgres, Redis/KeyDB, sqlite, MongoDB