ALEXANDER **F**ROLOV

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LANGUAGES AND TECHNOLOGIES

- Languages: Kotlin; Java; Python; C/C++; Unix shell scripting; Intel x86 assembly; SQL.
- **Technologies:** Kotlin Multiplatform; Kotlin Coroutines; Spring Boot; Ktor; React; Gradle; Kubernetes; GitHub Actions; reactive programming; multithreaded programming; network programming; POSIX API; Qt; Git; Docker.
- Native languages: English (Advanced); Russian (Native).

EMPLOYMENT

Software Engineer

Huawei Research Institute

Oct. 2021 - Oct. 2023

- Developed static analysis benchmarking cloud Spring services and React frontend for them -SaveOurTool (partially open-sourced).
 - Suggested, designed and implemented Spring service for static analysis tool demonstration (including pod orchestration), integrated it into Kubernetes cluster.
 - Improved latency of demo service by 3.5x to make it possible to use as a preview tool.
 - Managed cluster infrastructure, configured Kubernetes for new components, deployed the project into cluster.
 - Implemented user roles and authorization.
- Heavily contributed to Kotlin static analyzer and code fixer diktat (500+ stars on GitHub).
- Developed a Kotlin multiplatform library for launching applications and collecting their execution logs to be used by the demo service.
- Stack: Kotlin Spring WebFlux, Kotlin Coroutines, Spring Security, Spring Data, Kubernetes, Kotlin React, webpack, Kotlin Native, Ktor, Gradle, MySQL, S3.
- Stats: Hits of Code 95.5k in 18 months, TOP-1 additions in project, 320 PRs merged, opened 104 issues, 87 of which were resolved, drove weekly meetings, mentored an intern.

EDUCATION

Moscow, Russia

Lomonosov Moscow State University

Sept. 2019 – June 2023

- Graduate of the Computational Mathematics and Cybernetics department, Computing Systems and Automation. GPA: 4.4.
- Developed an IoT app that is used for medical telemetry data collection and processing.
 Stack: Kotlin Android, Jetpack Compose, Room, Ktor, MQTT, Bluetooth LE.
- TL'd a team of 3 students, owned backend design, mentored a younger student.
- Thesis topic: <u>Development of data collection application for simultaneous handling of multiple</u> <u>IoT (Internet of Things) devices: medical telemetry case study.</u> HoC: 56k.

Personal Projects

- spreadsheet (2024). A customizable spreadsheet app supporting complex formulas, data management, dependency tracking, and clipboard operations.
 Stack: Java, Swing, Gradle.
- <u>kotlin-js-preview</u> (2023-2024). IDEA plugin for Kotlin/React functional component preview. Stack: *Kotlin MPP, Intellij Plugin Platform SDK, Gradle*. Accepted to <u>JetBrains Marketplace</u>.
- <u>tiktaktoe</u> (2024). Classical online game over Ktor websockets with React-based web UI. Stack: *Kotlin, React, Ktor, Kotlin coroutines, Gradle*.
- <u>handmade-spring</u> (2024) Spring-like tiny library with pure Java implementation that includes BeanPostProcessor, IoC, ApplicationContext, etc. Stack: *Java, Gradle*.
- Fractals (2019-2023). Application which draws fractals in GUI. Has the ability to zoom. Written in four different languages: Java (Intellij Idea, Swing), C++ (Qt, multithreading, Qt Creator), C# (.NET, MSVS) and Kotlin (Intellij Idea, Compose UI, Kotlin Coroutines).