

# Konstantin Baranov

## C++ Software Engineer

4+ years of professional experience | Saint Petersburg, Russia | On-site / hybrid / remote | Open to relocation

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github.com/seigtm | seigtm.github.io | Russian: native | English: C2 Proficient, EF SET 71/100 (cert.efset.org/du7yCw)

### TECHNICAL SKILLS

**Languages:** C++20, C, Python, Bash, PowerShell.

**C++ / build / tooling:** STL, CMake, Android NDK, JNI, Conan, Google Test, CTest, Git, GitLab CI, clangd, clang-format, Clang, GCC, MSVC.

**Platforms and systems development:** Linux, Windows, Android, POSIX API, IPC, client-server architecture, Protobuf.

**Android / reverse engineering:** Android internals, Binder service calls, boot control, init.rc, ramdisk, fstab, SELinux contexts, Magisk, smali/baksmali, JADX, IDA.

**Graphics / desktop:** OpenGL, SDL, Dear ImGui, Assimp, GLSL, PySide6.

### PROFESSIONAL EXPERIENCE

#### C++ Software Engineer

Special Technology Center LLC

Dec 2022 – Present

Saint Petersburg, Russia

- Drive end-to-end development of native C/C++ software for Android, Linux, and Windows, from architecture planning and implementation of internal engineering projects to customer-facing technical presentations and demonstrations of software solutions for major customers.
- Developed a native C++20 Android service with an IPC interface and client-server API for controlling system-level device functions.
- Designed data exchange between Android/Linux components using TCP, local IPC channels, and Protobuf for client-server communication.
- Configured Android NDK/CMake builds and GitLab CI pipelines for multiple target platforms and artifact publishing to corporate cloud storage.
- Worked with Android internals, including boot control, Binder/telephony service calls, and privileged execution contexts. Modified Android system images, ramdisk, init/fstab, and SELinux contexts.
- Analyzed and modified Android/Linux/Windows applications, libraries, and system components using smali, baksmali, JADX, and IDA.
- Researched proprietary Qualcomm/MediaTek modem message formats, networking protocols, Bluetooth, and 3GPP specifications.
- Participate in code reviews and initiate architecture discussions around key technical decisions.

#### Junior C++ Software Developer

VAS Experts LLC

Sep 2021 – Jan 2022

Saint Petersburg, Russia

- Developed C++ components for a distributed file storage and transfer system.
- Implemented network command handling, Protobuf serialization, and data conversion between internal system protocols.
- Modeled finite-state machines for session, file, and storage states. Covered key modules and critical interactions with Google Test unit tests.
- Set up CMake builds and Linux service infrastructure: modular project structure, CTest, hot-reloadable configuration, and log rotation.

#### Intern Backend Developer

Saint Petersburg Information and Analytical Center

Jun 2021

Saint Petersburg, Russia

- Built internal helper tools and backend components for team workflows using Docker and PostgreSQL.

#### Intern C++ Software Developer

Nevskoe Design Bureau JSC

May 2021

Saint Petersburg, Russia

- Delivered a C++/Qt desktop application from design through deployment.

### PROJECTS

#### MEOV – Minimalistic Easy Object Viewer

github.com/seigtm/meov

- Built a C++ desktop application for viewing 3D models using OpenGL, SDL, Dear ImGui, Assimp, and CMake.
- Designed a component-based scene architecture supporting models, materials, textures, shaders, camera, lighting, skybox, and dockable UI.
- Configured CMake builds, static dependency linking, Git submodules, runtime assets, and sanitizer/debug settings.
- Created a resource layer with caching for models, textures, and shader programs. Integrated mesh, material, and texture map loading through Assimp.
- Defended the project as a bachelor's thesis with distinction.

### EDUCATION

#### Peter the Great St. Petersburg Polytechnic University

Bachelor's Degree, 09.03.04 Software Engineering; Institute of Computer Science and Cybersecurity

2022 – 2025

#### St. Petersburg Polytechnic College of Municipal Economy

Programming in Computer Systems; Software Technician; Computer Operator. Diplomas with honors

2018 – 2022