

Anton Vasin

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Master of Science in Software Engineering

Senior Graphics Engineer at [Prequel App](#)

Technical proficiencies

Highly proficient in Modern C++.
Expert in CUDA C++, OpenGL, Apple Core Image, Java Native Interface, and WebRTC.
Experienced in Unity, C#, NodeJS, FFMPEG.

Languages

Russian: Native.
English: Upper-Intermediate/Advanced.

Professional experience

Prequel App

<https://www.prequel.app/>

Lead Graphics Engineer

May/2021 - present

Technologies: C++17, Boost C++ Libraries, OpenGL ES 3.0, GLSL, Metal, Apple Core Image, Directed Acyclic Graphs (DAG), Java Native Interface (JNI), Swift.

I'm the lead designer and developer of a state-of-art cross-platform image processing engine for photo and video-editing software. The scope of my work:

- Designing the engine architecture.
- Designing and developing the DAG scheduler.
- Designing image-processing filters and algorithms.
- Implementing vertex, fragment, and compute shaders.
- Designing and developing the Color Management subsystem.
- Developing JNI layers for the Android platform.
- Developing Swift layers for iOS & MacOS platforms.

Topcon Positioning Systems - Moscow, Russia

<https://www.topconpositioning.com/>

Lead Software Engineer

Jun/2019 - May/2021

Technologies: C++17, Qt, OpenGL ES 3.0, DirectX 11.

I worked on the company's 3D engine for various mobile and desktop geodetic & survey CAD products.

Key Achievements:

- I fixed dozens of deadlocks, data races, and race-condition-induced crashes in the legacy part by completely overhauling it.
- I improved the concurrency model by replacing constantly conflicting mutexes with the Event Loop approach.
- I significantly optimized battery charge consumption on autonomous geodetic and mobile devices by optimizing rendering algorithms.
- I designed and developed a new renderer based on Entity-Component-System architecture. The ECS approach improved rendering performance and decreased application response time on autonomous and mobile devices.

Competentum Group (EPAM subsidiary) - Moscow, Russia<https://competentum.ru/><https://www.epam-group.ru/e-learning>**Senior Software Developer**

Nov/2015 -

May/2019

Technologies: C++11, C#, Unity, FFMPEG, WebRTC, Node.JS, Kurento, Docker Compose, AWS EC2, AWS S3.

I successfully finished several E-Learning web projects. As a result, I got promoted to a tech lead for a Unity-based project owned by [Mursion, Inc.](#) I led a team of three developers.

Key Achievements:

- Integrated WebRTC C++ library as a P2P network stack into Unity engine.
- Integrated FFMPEG C library as game recording stack into Unity engine.
- Developed a game session streaming cloud service based on WebRTC, Kurento, and NodeJS.
- Developed a webcam facial capturing and animation control system for Unity Engine.
- Successfully ported the application to Android, iOS, OSX, and Oculus Go VR Headset.
- Developed real-time spatial audio module for VR Environment.

NANO Security - Bryansk, Russia<https://www.nanoav.pro/>**Middle Software Developer**

Jul/2013 -

Jun/2015

Technologies: C++03, Boost, Microsoft COM, WinAPI, IDA Disassembler.

I started my career as a C++ developer here.

Key Achievements:

- Developed several static malware analyzers.
- Developed several static and dynamic feature detectors for further AI analysis.
- Developed container extractors to avoid third-party software license issues: archives, file system images, installation packages, game engine bundles, etc.
- Implemented compression and decompression algorithms and stream encoders to avoid third-party software license issues.
- Added improvements to CPU x86/x64 emulator.
- Added improvements to the JavaScript emulator.
- Performed reverse engineering and manual analysis of Android and Java malware.

Education

Master of Science in Software Engineering, [Bryansk State Technical University](#)