

Anton Vasin

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Github: <https://github.com/tony-space/>

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Master of Science in Software Engineering

Senior Software Engineer at [Topcon Positioning Systems](#)

Technical proficiencies

Highly proficient in C++.
Expert in CUDA C++, OpenGL, WebRTC (both C++ and JS).
Experienced in Unity, C#, NodeJS, FFMPEG.

Languages

Russian: Native
English: Upper-Intermediate/Advanced

Professional experience

Topcon Positioning Systems - Moscow, Russia
<https://www.topconpositioning.com/>
Senior Software Engineer

06/2019 -
present

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

I work on the 3D visualization subsystem for various mobile and desktop geodetic products.

Key Achievements:

- I revised and successfully redesigned the concurrency model of the visualization module. I replaced the mutex-oriented paradigm with the event-loop one, improving stability dramatically: race conditions (missed locks) and deadlocks (cross-reference locks) were eliminated. Deferred calls and task prioritization significantly reduced battery consumption on autonomous geodetic and mobile devices.
- I designed and developed a new renderer based on Entity-Component-System architecture. ECS approach improved rendering performance and decreased application response time on autonomous geodetic and mobile devices.

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

11/2015 -
05/2019

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

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

Key Achievements:

- Developed WebRTC-based network subsystem in the form of [Unity Components](#).
- Developed an FFMPEG-based game session recording component.
- Developed a game session streaming cloud service based on WebRTC, Kurento, and NodeJS.
- Developed a real-time facial capturing and animation system for Unity characters based on [OpenFace library by Tadas Baltrusaitis](#).
- Successfully ported the software on Android, iOS, OSX, and Oculus Go VR Headset.
- Developed real-time spatial audio module for VR Environment.

1xBet - Bryansk, Russia
<https://1xstavka.ru/>
Middle Software Developer

07/2015 -
10/2015

Technologies: C++11, C#, WCF, MongoDB, MySQL

Key Achievements:

- Developed an anti-cheat system that detected anomalies and bursts in raw data logs (unstructured documents in MongoDB collections).
- Developed several statistical and combinatorial models predicting sport game results in real-time.

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

07/2013 -
06/2015

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

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 JavaScript emulator.
- Performed reverse engineering and manual analysis of Android and Java malware.

Education

Master of Science in Software Engineering,
Bryansk State Technical University
<http://iipo.tu-bryansk.ru/>