ARSENY MOROZOV

C++ SOFTWARE ENGINEER

ars.morozz@gmail.com

Software engineer experienced in developing 3D engine/CAD applications.
Good with geometry, linear algebra, systems programming, rendering.
Windows internals reverse engineering experience.
Computer Science MSs degree. CTF/Competitive programming for fun.

WORKING EXPERIENCE

2022 - NOW

SOFTWARE ENGINEER, LEDAS

Project1: Client-server CAD/3D Engine application for orthodontics

- Mesh processing (OpenMesh, Assimp, VTK, draco, three.js)
- Mesh segmentation
- Mesh-to-mesh distance calculation/editing
- 3D object animation interpolation
- Custom 3D view controls (gizmos)
- 3D objects superimposition for model comparison
- Build scripts: mesh-processing C++ code -> wasm modules

Project2: Geometric constraint solver for orthodontics

- Visualization based on mapping 2D points into 3D
- Mesh processing algorithms (mesh repairing, computing normal)

2021

JR. RESEARCHER, A.P. ERSHOV IIS

- Proving semantic properties of Java programs using Coq and Isabelle-HOL.

EDUCATION & TRAINING

AUGUST 2025

MASTER OF SCIENCE IN INTERNET OF THINGS, NSU

FPGA, Embedded programming. Signal processing (FFT, differential equations). Control theory. Real-time operating systems. Networks.

AUGUST 2023

BACHELOR OF COMPUTER SCIENCE & SYSTEM DESIGN, NSU

GPA 4.98/5.0. Digital Design, Operating Systems, Algorithms, Networks, Theory of computation. C/C++, Java, Clojure, Python, Haskell, Prolog.

SKILLS

- Geometry, linear algebra, graphs
- C/C++, Python, Typescript
- Reverse engineering, winapi (DirectSound, CoreAudio)
- OpenGL, WebGL, Vulkan
- Visual Studio, IDA, windbg
- Three.js, Vue.js, Qt, wasm, OpenMesh, VTK, Assimp
- CMake, git, svn, conan, selenium
- Embedded C, STM32, sensors, ESP32
- Agile, Jira, team communication

LANGUAGES

- English / C1
- Russian / Native

PET PROJECTS

- Windows x86-64 user space **debugger** (C, C++) [repo]
- Triangle **mesh segmentation** tool (C++, OpenGL) [repo]
- Physically-based **snow simulation** with Material Point Method (C++, CUDA) [repo]
- Unix **shell**: job-control (fg/bg/jobs), stdout/stderr redirection, piping, signals [repo]
- CUDA implementation of "Real-Time Rigid Body Simulation on GPUs" (C++, CUDA, conan) [repo]
- A not-dictionary-based compression algorithm "CTW" (Python) [repo]