



Alexander POTAPOV

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SUMMARY

Frontend (TypeScript, React) 3D Graphics (C++, Vulkan) developer. Currently working in a startup as a Frontend developer on a next-gen web spreadsheets app (Excel/GSheets competitor). Our stack include TypeScript, React, C++ (WASM). Previously worked in a gamedev company as a 3D graphics developer (C++, DirectX11, Vulkan), developing new version of company's internal game engine in Vulkan. Interested in both low-level programming optimizations and in developing high-level, user-facing features.

EDUCATION

HIGHER SCHOOL OF ECONOMICS UNIVERSITY

2020 - Now / Moscow, Russia

B.S IN SOFTWARE ENGINEERING

- Calculus, Linear Algebra, Discrete Mathematics, Software Development, Operating Systems, Computer Architecture

EXPERIENCE

NANOSEMANTICS

October 2020 - June 2021 / Moscow, Russia

C++/PYTHON SOFTWARE ENGINEER

- Written a compiler for internal company programming language (AI dialog patterns)

EAGLE DYNAMICS

August 2021 - May 2022 / Moscow, Russia

3D GRAPHICS DEVELOPER

- Ported EDGE game engine to Vulkan. Created utilities for cross-compiling FX shaders to SPIR-V

BRICKS

May 2022 - Now / Remote

FRONTEND DEVELOPER

- Implementation of core features of Excel-like spreadsheet (rendering, charts, tables). TypeScript + SolidJS/ReactJS. Canvas DOM rendering

SKILLS

PROGRAMMING LANGUAGES *Experienced:* C++ | TypeScript *Familiar:* C# | Python

GRAPHICS PROGRAMMING Deferred Rendering | Physically-Based Rendering | Render Graph | Vulkan API | OpenGL

FRONTEND TypeScript | ReactJS | WebAssembly

LANGUAGES *Native:* Russian *Fluent:* English

OPEN-SOURCE PROJECTS

MxENGINE General-purpose 3D game engine (deferred rendering, PBR, physics, audio, editor tools) | [github](#)

VAL Render Graph-based Vulkan rendering library (automatic barriers, shader reflection) | [github](#)

FLUID SIMULATION 2D realtime fluid simulation from GPUGems book (with CUDA as compute backed) | [github](#)

PATH TRACER GLSL path tracer (based on MxEngine, supports diffuse, reflective and transparent objects) | [github](#)

ANGOURIMATH Symbolic algebra library for C# (one of main contributors, worked on analytic solvers) | [github](#)