

# Maxim Gorishniy

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<https://github.com/Magorx>

## PROJECTS

- **Ray-tracing** ([link](#))  
Implemented a 3D scene renderer using path-tracing technology **with BVH optimization** (Bounding Volume Hierarchies). Supports movable camera, antialiasing, reflections, refractions with Schlick approximation, global-like lightning, custom triangulated models; different materials, primitives, textures and light emitters can be combined easily. Multithreading and map-reduce can be used for faster render. (C++)
- **Virtual CPU** ([link](#))  
Developed a CPU emulator with a custom assembler language. A program written in this assembler is transformed to a binary "executable" which is executed by the CPU emulator. (C, Assembler)
- **C-like programming language** ([link](#))  
Designed a programming language and developed a compiler into Virtual CPU assembler for it. Supports arithmetic operations, variables, constants, functions with default parameters, loops, arrays and symbolic graphics. (C++, Assembler)
- **Teach-yourself Telegram bot for SAT in Russia** ([link](#))  
Implemented a telegram bot aimed at helping students of my school to prepare for the final Unified State Exam, up to 15 users simultaneously online and 50 unique users during all time.  
(Python, Telegram API)
- **PingPonger - a life safety platform** ([link](#))  
Developed a prototype of a platform aimed to passively increase life safety during periods of predictably high danger. **Took second place in the XXIX Annual "Sakharov's Readings" (2019, [link](#))** – The High School Conference in Saint Petersburg, Russia. (Python)

## EDUCATION

- **Bachelor's degree, Moscow Institute of Physics and Technology** (Sep 2020 - Present)  
Phystech School of Applied Mathematics and Informatics; Principal subjects: Computer Science  
**GPA**: 5/5 or 9.6/10

## SKILLS

- **Programming languages**: C, C++, Python
- **Technologies**: Telegram API, GLSL(beginner), SFML (beginner)
- **Math**: Calculus, Analytic geometry, Mathematical logic
- **Languages**: English(B2-C1), Russian (native)

## HOBBIES

- **Drawing & Pixel Art**: A novice in both. Hosting a [community page](#) (80 subscribers).
- **Dancing**: Have been practicing [hustle](#) (dance) for 1.5 years; take hustle lessons in MIPT.
- **Board games**: Created a couple of prototypes, playtested them with friends and schoolmates.