Baidusenov Timur

Born: September 20, 2005

Currently: Dolgoprudny, Russia

✉ baidiusenov.tb@phystech.edu

Telegram: @bai_tim

Scientific interests

○ C++, C

○ Compiler technologies

○ RISC-V

Education

MIPT DREC

Dolgoprudny, Russia

Second-year student, Applied Mathematics and Physics

GPA: 8.9 / 10.0

Languages

Russian - Native Proficiency

English - B2

Learning Experience

2023-2024 **System programming & compiler technology course**

Huawei, Ilya Dedinsky's course

2024-2025 **Basic course of programming in C++**

Yadro, Konstantin Vladimirov's course

Technical Skills

Programming Languages:	C++, C, Python
Development Tools:	Git, Linux, GDB, Assembly, LaTeX
	Cmake, Conan, Docker, Github Actions
Technologies & Libraries:	Google Test, OpenGL, OpenCL, Flex, Bison
Hardware & CAD:	SolidWorks, EasyEDA, ESP32

Projects

C++ Projects:

- **ParaCL** - Custom interpreted language with C/Python syntax. Frontend: Flex/Bison, AST generation, interpreter runtime

- **TrianglesGL** - OpenGL-based 3D visualization of triangle intersection algorithms. GPU-accelerated rendering with real-time transformations

- **MatrixChain** - Optimized matrix chain multiplication using dynamic programming. Includes a custom memory-efficient matrix class

- **BitonicSort** - OpenCL-accelerated bitonic sort implementation with comparative performance analysis. As a result, std::sort was outpaced.

- **Graph** - C++ graph theory library from TAOCP 7.2.1.6.S. implementing BFS, DFS, Bipartite with specific representation

- **AVLTree** - Self-balancing AVL tree implementation for segment queries. Supports insertion, deletion, and logarithmic time range queries

- **Caches** - Configurable cache simulator with LRU, LFU and ARC policies and hit/miss statistics

  All C++ projects implement CMake-based builds with Conan packaging deployed to ConanPackages . Components use internal packages from this registry.

Hardware Projects:

- **Drone** - Team project developing a flying drone based on ESP32 microcontroller with integrated PID balancing