

Mariia Zhytnikova

Software Development

Software developer transitioning from a scientific career, combining analytical thinking with programming experience in C/C++ and Linux. I enjoy solving complex problems, learning new tools, and applying my research mindset to real development tasks. Open to different roles and naturally curious about AI and modern tech.

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 <https://github.com/MariiaZhytnikova/>

Technical Skills:



PROJECTS

Minishell - [C, POSIX](#)

Implemented a Bash-like shell with pipes, redirects, built-ins, and signal handling.

Skills: system calls, processes, environment variables, memory management, debugging.

Webserver - [C++](#)

Built an HTTP server with request handling and CGI execution.

Skills: sockets, HTTP protocol, CGI, multiprocessing / multithreading.

Inception - [Docker, Docker Compose, Nginx, MariaDB, WordPress, SSL, virtualization](#)

Designed and deployed a containerized service stack using Nginx, MariaDB, and WordPress on a virtual machine.

Skills: Docker orchestration, service isolation, SSL configuration, virtualization.

2D Game - [C, MLX42 \(graphic\)](#)

- Created a 2D game with event-driven rendering and basic collision logic.

Skills: graphics rendering, input handling, sprites.

3D Game - [C, MLX42 \(graphic\)](#)

- Developed a Wolfenstein-style engine using raycasting and texture mapping.

Skills: raycasting, real-time rendering, math & geometry.

Hive - [TypeScript, Canvas](#)

- Implemented a turn-based strategy game with interactive canvas rendering.

Skills: TypeScript OOP, game logic, UI rendering.

AirGuardian - [Python, JavaScript, Canvas](#)

- Processed drone data and displayed zone violations visually.

Skills: data parsing, geospatial logic, canvas visualization.

EXPERIENCE

IRE NASU, Kharkiv – Research officer

Performed molecular dynamics research and structural analysis of protein-DNA interactions.

NIBR (external collaboration via IFNUL) Lviv – Senior scientific consultant

Conducted in-depth literature and clinical database reviews on target-disease associations and related therapeutics. Analyzed and systematized data, delivering clear analytical reports for decision-making.

EDUCATION

Helsinki Hive, Helsinki – Software Development | 2024 - current

Karazin University, Kharkiv – Ph.D. in Biophysics, Mathematical & Physical Sciences | 2017

Karazin University, Kharkiv – M.Sc. in Biophysics, with honors | Completed

LANGUAGES

English – Fluent | Russian – Native | Finnish – B1