

Mariia Zhytnikova

Software Development

Software developer transitioning from a scientific career, combining analytical thinking with practical experience in C/C++, Linux, and project-based learning at Hive Helsinki. I have a strong foundation in systems programming and multiple programming languages. I enjoy breaking down complex problems and troubleshooting intricate technical issues in both individual and team projects. My research experience strengthened my communication skills and ability to stay focused under pressure and tight deadlines. I'm open to different development roles and naturally curious about AI and modern tools.

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 | Ukrainian – Native | Russian -Fluent | Finnish – B1

 Helsinki, Finland

 (+358) 46 57 60 200

 allusio@gmail.com

 linkedin.com/in/mariia-zhytnikova

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

Technical Skills:

