



# Nebojša Koturović

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 N/A in Digital  
 Serbian, English  
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## WORK EXPERIENCE

- **“Orange Cloud”** - C++ Engineer, Belgrade, Serbia *September 2022 — Now*
- **“Tylo”** - C++ Developer, Belgrade, Serbia *September 2021 — September 2022*

## EDUCATION

- **“Faculty of Mathematics”** - Informatics - University of Belgrade, Serbia *exp. 2015 — 2024*
- **High school “Dragačevo”** - Financial technician - Lučani, Serbia *2010 — 2014*
- **Elementary school “Milan Blagojević”** - Lučani, Serbia *2002 — 2010*

## PROGRAMMING LANGUAGES

C++, Go	★★★★★
C, Rust, Zig, Haskell	★★★★★
Javascript/TS, Python, Java	★★★★★
Lua, Groovy	★★★★★

## TECHNOLOGIES

Linux, Git, Bash, LLVM, SQL, Qt, OpenGL,  
OpenCV, CMake, Nix, Docker, Kubernetes,  
Pulumi, Conan, Web, HTML/CSS, NeoVim,  
Markdown, Gherkin, Grafana,  $\LaTeX$

## TALKS

**Title:** C++ dependency management with Nix *C++ Serbia*  
**Link:** <https://youtu.be/Y2Aq8pMsLz4> *23 Feb 2023*

## TEAM PROJECTS

**Photowall** - Web platform for sharing digital images consisted of client-side SPA written in Angular framework and secure performant C++ server. I was in charge of developing blazingly fast server-side application written in C++ that includes public REST API, a built-in framework for defining data flow, models, constraints, interacting with database and resolving permissions in a generic and reusable way built on top of `boost::hana` with advanced TMP techniques.

**Technologies:** C++, Hana, Restinio, Sqlite, JWT

**Link:** <https://gitlab.com/matfpvneb/projekti/2019-2020/11-photowall> *Mar 2020 - Aug 2020*

**Photon** - Application with Qt based GUI where the user can apply a predefined set of effects to an image of choice. My role was developing `rs-img` library that stands as connecting bridge between the front and back end of the application, providing convenient DSL for manipulating images used by end-user. It also provides an easy and modular way for backend implementation in specific frameworks such as OpenCV or ImageMagick wrapped with PImpl idiom. Besides `rs-img`, I've created undo functionality, participated in and supervised Qt GUI and OpenCV backend implementation.

**Technologies:** C++, OpenCV, Qt

**Link:** <https://github.com/nkoturovic/RS009-photon> *Dec 2019 - Jan 2020*

**Pluton** - Minimal **text-based** file manager for performing basic tasks such as file creation, file deletion, navigation, etc. On this project, I was designing and implemented **text-based** user interface with **TermOx** library, expanding existing widgets with new functionality, participating in the development of **core/system** of file manager **engine**, exploring immutable data structures with **Immer** library and combining them with functional style patterns.

**Technologies:** C++, TermOx, Immer, Range-v3

**Link:** <https://github.com/mrdakj/Pluton>

*Mar 2018 - May 2018*

## PERSONAL PROJECTS

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**Ctollvm** - Compiler for the subset of C programming language, which can be used to translate C source to native **machine code**. One of the key features is readable error messages with source code references and traces. It includes lexing, parsing, **ast** generation, semantical analysis, and code generation phases. It uses GNU tools **flex** and **bison** for parsing C **source code**, a hand-crafted class hierarchy for **ast** representation, and LLVM library for code generation.

**Technologies:** C++, Flex, Bison, LLVM

**Link:** <https://github.com/nkoturovic/compiler-project>

*Jul 2019 - Sep 2019*

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**SenseFX** - The program gives an immersive first-person game-like 3D virtual experience. It renders a set of rooms based on the directory structure of the user's physical drive and places him inside it. The user has the ability to move between rooms (directories) and interact with 3D objects. Everything is rendered in **real-time** using **OpenGL** library.

**Technologies:** C++, OpenGL

**Link:** <https://github.com/nkoturovic/sensefx>

*Dec 2017 - Jan 2018*

## SOFT SKILLS

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- Communicative, approachable, and dedicated
- Positively thinking, and respectful to others
- Creative, focused, and highly motivated

## INTERESTS

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- Artificial intelligence, computer simulations
- Web programming, backends, databases
- Volleyball, basketball and other sports

## ABOUT ME

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I'm a full-time C++ developer pursuing a degree in Informatics. A true language enthusiast who loves to explore new languages and their interesting features.

As a C++ developer, I care a lot about performance, thence obsession with compile-time programming and optimizations. Linux lover, distro hopper, and free software enthusiast.

A person who enjoys the artistic aspects of software development, but more importantly, I love being surrounded by interesting people, learning new stuff, and making connections.

Programming is a true passion of mine which allows me to meet amazing people, work on interesting projects, and have a positive impact on the world.