



Nebojsa Koturovic

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- 10.10.1995.
- N/A in Digital
- Serbian, English
- Belgrade, Serbia

WORK EXPERIENCE

- **“Orange Cloud”** - C++/Go Engineer (Belgrade, Serbia) *September 2022 — May 2024*

I was outsourced and worked as a contractor for StackPath, a US-based company that offers Cloud/Edge Compute products. Initially, I started as a C++ developer and worked on their CDN platform, after which I transitioned to the Edge-Compute team and worked on back-end services as a Go developer for almost a year. I had the chance to work on various tasks related to Kubernetes and neighboring technologies.

- **“Tyllo”** - C++ Developer (Belgrade, Serbia) *September 2021 — September 2022*

For the entire employment period, I was part of the headend division at United Cloud. As a member of the streaming team responsible for developing a cutting-edge transcoding solution. My job consisted of various development tasks, as well as research and support work for the surrounding software infrastructure.

EDUCATION

- **“Faculty of Sciences”** - Computer Science - University of Novi Sad, Serbia (exp) *2023 — 2024*
- **“Faculty of Mathematics”** - Informatics - University of Belgrade, Serbia (3/4 yrs) *2015 — 2020*
- **High school “Dragačevo”** - Financial technician - Lučani, Serbia *2010 — 2014*

PROGRAMMING LANGUAGES

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

TECHNOLOGIES

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

ABOUT ME

My passion for software and technology goes beyond my professional work, it is true not just at the present moment but in the past as well. I used to experiment with software long before I decided to make a living out of it. Due to hard work and the right circumstances, I was fortunate to get accepted at the University, where I had the chance to learn from the brightest minds in the field.

Before I was able to graduate, I started working in the industry as a C++ developer. I had a very good start on my first job at Tyllo, the knowledge I accumulated from the University and in my free time got me up to speed very quickly. The course of events and my desire to learn more led me to my second job at Orange Cloud. Working as a contractor for a foreign client was a huge career step that opened a whole new world for me. As the youngest among peers at the StackPath’s CDN and later Edge-Compute team, I was in a position to learn from highly competent and experienced individuals.

Over the course of almost three years in the industry, I have worked with numerous technologies and met many amazing people. Unfortunately, due to the difficult financial situation of the company, I lost my job and am now actively seeking a new role.

TALKS

C++ dependency management with Nix - The first part of the talk covers different approaches for managing project dependencies in C++ projects while emphasizing both the good and bad sides of these approaches. In the second part, the focus shifts to a relatively novel approach of leveraging Nix for C++ dependency management, and using it to acquire libraries and other packages that a project may depend on.

Link: <https://youtu.be/Y2Aq8pMsLz4>

C++ Serbia

Audio: Serbian

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 data-flow framework, models, constraints, database access and permission resolution. It was built in a generic way on top of `boost::hana` with advanced metaprogramming techniques.

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

Link: <https://gitlab.com/matfpvbe/projekti/2019-2020/11-photowall>

Mar 2020 - Aug 2020

Photon - Application with Qt based GUI where users can apply a predefined set of effects to the image of choice. My role was developing `rs-img` library that stands as a connecting bridge between the front and back end of the application, providing a convenient DSL for manipulating images added by the end-users. The library also provides an easy and modular way for swapping and choosing from different backends such as OpenCV or ImageMagick wrapped with PImpl idiom. Besides `rs-img` library, I've created the undo functionality, and participated in other tasks.

Technologies: C++, OpenCV, Qt

Link: <https://github.com/nkoturovic/RS009-photon>

Dec 2019 - Jan 2020

Pluton - Minimal text-based file manager capable of performing a basic set of operations such as file creation and deletion and navigation. On this project, I designed and implemented text-based user interface with TermOx library, expanded the existing widgets with new functionality, and participating in the development of `core/system` of the file manager engine, and help developing algorithms around immutable data structures with the Immer library.

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

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

Mar 2018 - May 2018

PERSONAL PROJECTS

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 are readable error messages with source code references. It includes lexing, parsing, ast generation, semantic analysis, and code generation phases. Relying on GNU tools, such as flex and bison for parsing C 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

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. The user has the ability to move between rooms (directories) and interact with 3D objects. Everything is rendered in real-time using OpenGL.

Technologies: C++, OpenGL

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

Dec 2017 - Jan 2018