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# Cosmin Harangus, Senior Software Engineer

With over 17 years of professional software development experience under my belt I am very versatile in working with different technologies, designing complex software architectures and building complete solutions.

Most of the time I worked as a full-stack developer with ReactJs, NodeJS, Golang and Elixir, however over the last few years I focused more on backend development with Golang and micro-service based system architectures.

## Education

### Bachelor in Computer Science, Babeş Bolyai University, Cluj-Napoca

September 2005 — July 2008

### Master in Computer Science, Babeş Bolyai University, Cluj-Napoca

September 2008 — June 2011

Specialty: Distributed Systems over the Internet

## Skills

- Golang
- NodeJs
- TailwindCSS
- PHP
- Elixir
- React
- JavaScript

## Employment History

### Founder at DomainWatch & Around25

July 2023 — Sept 2024

Built internal automations with N8N & Airtable, implemented a SaaS to monitor registered domains for price and availability fluctuations using Elixir and built a reverse job board using Golang.

### Lead Developer at ParamountDax, Remote

November 2018 — July 2020, June 2022 — May 2023

ParamountDax is an Italian crypto exchange that wants to compete with Binance in terms of features and performance.

The founder was impressed with a series of articles I wrote about building a high performance matching engine in Golang and contacted me to continue my research and help them implement the complete exchange.

I drove the main architecture design and development effort on the project and was responsible for:

- Fully implemented the main matching engine with support for Market and Limit orders
- Proposed and implemented a micro-service based architecture for the platform
- Created a Bitgo wallet micro-service in Golang that could interact both with the Bitgo API and Ethereum network for custom ERC20 tokens support
- Main API micro-service for the exchange with web-sockets support

- Implemented two micro-services connected to the engine and API through Apache Kafka that persisted trade data in InfluxDB and generated candle and market data.

We successfully implemented the functionality and released the first version of the exchange as well as helped raise their initial ICO funds (over \$1.4m to support their project).

After the initial release and continued feature releases another team took over and continued development on the client side. After 2 years the client came back to me seeking help improving performance and wanting an all in one solution as well.

I integrated the engine in a single service, improved performance significantly, fixed multiple race conditions added in the code base and delivered an all in one solution for them to use as white label.

## **Performance Consultant at Ebbot AI, Remote**

August 2020 — February 2022

Ebbot is an AI chat bot platform used by some of the largest e-commerce and banks in Sweden. Initially created using NodeJS, PostgreSQL and DialogFlow it hit a performance bottleneck that prevented the company from moving forward and signing on more clients.

They were also preparing for an upcoming Black Friday event that they could not successfully handle at their current message processing performance.

Here are some of the improvements I did:

- Did an extensive review of the code base in which I pointed out most of the major bottlenecks that could be fixed to improve performance
- Added Prometheus and Grafana and integrated metrics in the code that allowed the team to better monitor performance.
- Fixed all performance issues and reduced the latency to under 50ms for most requests by removing database calls in critical flows
- As part of the refactoring we also migrated from a NodeJS monolith to a NodeJS & Golang microservices architecture

The improvements I made allowed the company to onboard a lot more clients, scale 50 times the number of messages the system could process and increase their revenue tenfold in that period.

## **Principal Engineer at Bittr, Remote**

September 2017 — April 2018

Bittr allows you to easily setup a recurring crypto investment through bank transfers that automatically converts your deposits into Bitcoin.

Because of my previous experience working with Bitcoin and crypto currencies I was involved in this project from the start as a fullstack developer.

I used Elixir with Phoenix framework and React to build the initial version of the service. Ruben and I worked very close together by sharing ideas and questioning how to best implement them to make the product better. Most of the challenges were related to bank APIs that are stuck in the past or don't offer a reliable feature set, changing specifications due to regulations in an emerging market like crypto and dealing with the Bitcoin API implementation.

## **Senior Fullstack Developer at Learnship Virtual Classroom, Cluj-Napoca**

April 2015 — October 2016

Learnship is a global E-Learning platform with thousands of trainers all over the world and with clients like Google, Amazon, Nike, Volkswagen. Learnship provides their clients with a great collection of materials, exercises and homework for learning any language with native teachers through a Virtual Classroom that let's teachers collaborate with multiple students through an interactive web application.

The Virtual Classroom component of their platform was always very buggy and slow, so they reached out for help.

I was part of a two man team dedicated to finding the best way to improve the performance of the Virtual Classroom by first running an experiment to see if we can rewrite it with that goal in mind.

The initial experiment was a complete success and we reimplemented to code in React and Flux over the next few months. Since the classroom contained many existing features we added support for a lot of event actions and new functionality requirements to keep the compatibility with the previous version and allow the user to enjoy a smooth collaborative interface.

Once that was complete I moved on the backend to help with refactoring efforts that were already in progress to move from Symfony 1.4 to Symfony 2.

## **Lead Developer at UTI CMMS, Cluj-Napoca**

March 2014 — September 2015

CMMS is a platform that brings together all employees involved in the continuous maintenance of all systems of the airport to allow them to collaborate easier and reduce the paperwork that is currently needed in any interaction with the equipments and the airport.

I was responsible for:

- designing a micro-service based architecture for the platform
- implementing the communication between the services using NodeJs, RabbitMQ and RethinkDb
- working with the team members to implement and test each micro-service
- ensure the platform stays up without much maintenance and services auto restart on failure.
- figuring out how to deploy it in a closed circuit intranet at the Cluj-Napoca International Airport

## **Lead Developer at ITST, Cluj-Napoca**

March 2012 — August 2013

ITST is a platform that allows corporations and VIPs book private jet flights at discounted prices. They allow large companies that need to transport materials and people multiple times a month all over the world to get better prices for their travel needs and it also allows airlines to sell their unoccupied travel time through a platform that connects them with high paying entities that need their services.

The platform was built from the ground up using PHP, Symfony 2 and MySQL.

## **CTO at Around 25, Cluj-Napoca**

December 2006 — Sept 2024

Since before joining the CS faculty I've been working as a freelancer on RentACoder with my friend Paul. Since then we started Around 25 as one of the first agencies in Cluj that focused exclusively on open source technologies. I started by career as a fullstack PHP developer working with Zend Framework and Symfony and continued to adopt the latest technologies being an early adopter of React, Docker, Golang and Elixir.

### As part of my experience in a CTO capacity:

- I've been actively involved in building complex web applications for multiple clients,
- designing scalable system architectures using micro-services
- creating MVPs for early stage startups with PHP, NodeJs, React, Golang & Elixir
- advancing the know-how and adoption of new technologies before they become mainstream
- designed and lead the first internships inside the company
- putting out fires on the more complex projects when the team needed and extra hand
- handling deployment and scaling services with Docker and Kubernetes
- added automations for repeating flows using N8N, Airtable and Tally

### Links

[Personal Website](#)

[LinkedIn](#)

[Twitter](#)

[Github](#)

### Languages

**Romanian** Native speaker

**English**

### Extra-curricular activities

#### Founder at PremiumDomainWatch

June 2024

After waiting for a domain to become available again I built a tool in my spare time that does this automatically for you and sends you notifications whenever a domain becomes available again. Built using Elixir, Phoenix and LiveView. Check it out at <https://premiumdomainwatch.com/>

#### Developer at Hashiru Engine

2018 — 2024

Built an open source high performance matching engine in Golang that was later used as the main engine in a live exchange: <https://github.com/hashiruhq/engine>

### Hobbies

**Reading, Traveling, Swimming, Indie Hacking**

### References

**References available upon request**