



Michele Riva

Co-founder & CTO @Orama. Published author, international speaker.

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I'm a passionate and experienced software engineer, Google GDE, and Microsoft MVP from Milan, Italy.

I've worked as a software engineer and architect for a decade in product and consultancy companies, taking the best from both worlds.

In 2022, I published my first book, "Real-World Next.js," where I talk about the web framework that changed forever the way we build web applications.

In 2023, I co-founded Orama, where I am working as a CTO building the new generation of AI-powered search engines.

EXPERIENCE

Orama

March 2023 - Present

Co-Founder & CTO

- Co-founded the company and supported the CEO during fundraising.
- Hired and managed the operations team.
- Created patents and wrote papers for our IP.
- Researched and implemented several database features, such as vector storage, vector search, hybrid search, geosearch, geopartitioning, and more.
- Researched and implemented new LLM quality scoring algorithms.
- Designed the Orama Cloud architecture, serving millions of queries per month (up to 15k req/s) with 100% uptime.
- Led product development with our CEO and Head of Design, creating a new generation of AI-powered search engine experience that runs on edge networks.
- Represented Oramasearch Inc. at ECMA International as a TC39 delegate

Ecma International

April 2023 - Present

TC39 Delegate

NearForm

Staff Engineer

October 2022 - March 2023

- Established the relationship with ECMA International and TC39, managing workforce for providing polyfills to the new internationalization features of ECMaScript.
- Talked to more than 50 international conferences about JavaScript, TypeScript, Software Architecture, and dozens of other topics.
- Developed and open-sourced Orama, the first full-text search engine capable of running on edge networks. At the time of writing, the project has more than 300,000 monthly downloads on NPM and more than 8,400 stars on GitHub.

Senior Architect

February 2022 - October 2022

- Conducted architectural reviews for clients to help them save millions of dollars in infrastructure costs each year.
- Defined the infrastructure architecture for startups relying on NearForm's workforce for building their products and apps.

Paramount

April 2020 - February 2022

Senior Software Engineer

- Designed, documented, and implemented the new multi-tenant architecture of Paramount, hosting more than 250 websites (including streaming services, news websites, and smart TV webviews) using AWS, Next.js, TypeScript, and Kubernetes. This allowed us to adopt CI and CD with multiple deployments per day in a large organization (around 500 developers), with the ability to push a new feature or fix to production in less than one hour (300% faster).

- Created a custom, real-time, high-performance JavaScript/TypeScript compiling and bundling system, which improved the compiling phase of an entire monorepo by 200%.
- Defined the testing strategies and best practices for the whole web engineering department, leading to a +50% improvement in performance and over 98% of code coverage on a large (>5,000 files) monorepo. • Led both technical and behavioral interviews of around 50 senior engineer candidates.
- Onboarded, mentored, and trained new colleagues on the current technology stack and coding style guides.

Packt

November 2020 - January 2022

Book Author

- Authored the book "Real-World Next.js - Build scalable, high-performance, and modern web applications using next.js, the react framework for production"

Accenture Song

2 years 4 months

Senior Software Engineer

July 2019 - April 2020

- Designed, documented, and implemented a new architecture for the production line software of our biggest client in the automotive sector using Elixir, TypeScript, and Golang.
- Led technical interviews and helped hire around twenty developers.
- Advocated for more modern technologies adoption, such as ESNext, TypeScript, and Golang by giving internal talks, writing articles, and promoting open-source projects while training and mentoring colleagues.

Software Engineer

January 2018 - July 2019

- Developed web interfaces for big international companies such as Maserati, Gucci, Fendi, Piaggio Group, etc., using React, Vue, TypeScript, and styled-components.

GMDE s.r.l.

December 2014 - December 2017

Software Engineer

- Developed news websites for some of the most prominent newspapers in Italy, always caring about performance, accessibility, and reliability.
- Developed web applications using PHP Symfony, Node.js, and React.js.

PUBLICATIONS

Patent: Operating a distributed search index in a content delivery network

Issued Mar 5, 2024

Patent 11921759

A facility for distributing a search index for a corpus of documents is described. The facility accesses multiple search index segments collectively making up the search index. Each of the segments is executable to traverse an index subtree embedded in the segment to find in the index subtree a node representing a query term specified in an argument. Each of the segments corresponds to a particular indexed document field that is indexed by the search index.

For each of the segments, the index subtree embedded the segment has nodes representing query terms that all produce a particular hash result. The facility calls a programmatic publication interface for a content delivery network to publish the plurality of search index segments on the content delivery network.

Patent: Operating in a content delivery network a distributed search index based on an automatically-selected set of documents properties

Filed Apr 12, 2024

Patent 63/633,411

A facility is described for automatically selecting document properties to be included in an index on a corpus of documents. In some cases, the facility performs this automatic selection by subjecting a list of the document properties for which the documents have contents to an inference model. In some cases, the facility conducts this automatic selection by submitting to a large language model a prompt automatically constructed to include, for each of one or more documents, the document's contents for each document property, in each case together with the document property's name.

Book: Real-World Next.js

February 2022

Packt

- Next.js is a scalable and high-performance React.js framework for modern web development. It provides a large set of features out of the box, such as hybrid rendering, route prefetching, automatic image optimization, and internationalization. With this

book, you'll learn how to effectively use this exciting technology for a wide range of purposes, from creating an e-commerce website or a simple website to a blog without compromising on performance or user experience.

- Starting from the basics of Next.js, you will understand how the framework can help you reach your development goals. You'll also explore Next.js's versatility by building real-world applications with the help of step-by-step explanations, understanding how to write unit tests and integration tests for an app, integrating different backends with the app, and more. Later, the book shows you how to choose the right rendering methodology for your website, how to secure it, and how to deploy it to different providers.
- By the end of this Next.js book, you'll have the skills you need to be able to design, build, and deploy modern architectures using Next.js with any headless CMS or data source.

HONORS

Microsoft Most Valuable Professional

Microsoft

A Microsoft MVP (Most Valuable Professional) is an award given by Microsoft to technology experts who actively share their knowledge and contribute to the community, demonstrating exceptional leadership and dedication to helping others with Microsoft products and technologies.

Google Developer Expert

Google

A Google GDE (Google Developer Expert) is a recognition awarded by Google to experienced professionals who are passionate about sharing their knowledge and expertise in Google technologies with the developer community through speaking, writing, and mentoring.