

Curriculum Vitae of Damir Kovač

Senior **frontend web developer / team lead** with a **10-year track record** of delivering high-quality **SPA** solutions in **startup** and **corporate** environments.

Contact Information

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Keywords

Architectures:

PWA (Progressive Web Application), SPA (Single Page Application), Headless CMS, Microservices

Design / UX:

Responsive Web Design, UX (User Experience), Mobile-First Design, i18n (Internationalization)

Concepts:

Performance optimization, Scalability, WebSockets, Lazy loading, Real-Time data updates, Progressive enhancement, Code splitting, Modular development, RESTful, CI/CD (Continuous Integration/Continuous Deployment), GitFlow, BEM (Block Element Modifier), SCSS (Sassy CSS), 7-1 SCSS, Web scrapping

Technologies: *(most recently used ones are bold)*

- Essentials: **JavaScript** (ES6+), **ReactJS**, **HTML** (5), **CSS** (3)
- UI: **Material-UI**, Bootstrap, **TanStack Table**, **ECharts**, **react-icons**, **Font Awesome**, Styled Icons, Unicons, **dnd-kit**, react-toastify
- Frameworks: **create-react-app**, **Redux**, AngularJS, Cordova, Ionic
- Data: **Axios**, **Ky**, **RTK (redux toolkit)**, **Formik**, **JSON**, XML
- Build and Pack: **npm**, **Yarn**, **Webpack**, **git**, Grunt, **Rollup**
- Collaborate: **git**, **GitHub**, **GitLens**, GitGraph, Jira, **Azure DevOps**, **Copilot**, **ChatGPT**, **Notion**
- Backend: **Node.js**, ASP.NET, Entity Framework, Microsoft SQL, PL/SQL, **Swagger**
- Automation: Selenium, WebDriverIO, Puppeteer, Cheerio, BrowserStack
- Other: **SCSS**, LESS, **React Router**, **Lodash**, jQuery, **Video.js**

Work Experience

Senior Frontend Web Developer

CodeSmith - sole proprietorship, Zagreb, Croatia, 5/2019 – ongoing

I have held various roles in the development process, from **lead developer**, **sole developer/designer**, to **developer** as an external member of **clients' teams**. Throughout my tenure, I have collaborated with **multiple contractors** on diverse **big data** and **machine learning projects**. These initiatives have encompassed some less common concepts — **real-time data management**, **selective data persistence**, **charting**, and **visualizing mathematical graphs**. Leveraging my expertise in **ReactJS**, **TypeScript**, **Redux**, **RTK**, **MUI**, **JointJS**, **ECharts**, and other technologies, I have been instrumental in both maintaining existing SPAs and spearheading the development of new ones.

Additionally, I have played a significant role in shaping the development process, establishing **robust code standards**, implementing **best practices**, and providing **guidance** to less experienced team members. My ability to make informed technical decisions has created a **template/backbone for several of the client's future projects**.

Full-stack Web Developer

Neoinfo d.o.o., Zagreb, Croatia, 04/2017 – 05/2019

During this engagement, I **transitioned into the role of a full-stack developer**, and within the first year, **assumed the position of the lead developer's right hand**, eventually replacing him on his departure. My responsibilities encompassed the full range of tasks, from refining CSS styles to optimizing database performance for a project developed for an insurance company, based on AngularJS (styled with **Bootstrap**), **ASP.NET** (augmented with **Entity Framework**), and a **Microsoft SQL Server** database.

Leveraging my academic background and innate ability to quickly grasp new technologies, I adeptly tackled challenges such as shifting mindset to a strongly typed language (**C#**), navigating the **ASP.NET** ecosystem efficiently, and extending the existing ER model, often remodeling it to increase performance. The result was the **expansion of their business from Croatia to the Italian market, with the Italian partner selecting me as the primary point of contact**, increased performance and far more maintainable code. In the end, the **development team experienced a 40% reduction**, even as the application managed over **three times the volume of data**, allowing for the redistribution of human resources elsewhere.

Frontend Web Developer

Snowfall d.o.o., Zagreb, Croatia (sadly, closed months after my departure), 03/2016 – 04/2017

I have envisioned and developed an **automated end-to-end testing solution** using **Selenium** and **WebDriverIO**, integrated with **BrowserStack**, for over 90 different versions of an Ember-based payment portal for **Panasonic** WISP in-flight purchases, which significantly enhanced our ability to test both the core and vendor-specific changes by a magnitude of a hundred.

Made a significant contribution to both the codebase as a member of a team using **AngularJS**, **ionic**, and **Cordova** to develop multiple user group applications for the Swedish transportation company **MTR**.

Frontend Developer

TEB Informatika d.o.o., Zagreb, Croatia, 08/2015 – 03/2016

As a member of a team outsourced to the **Croatian national road management company - Hrvatske ceste d.o.o.** I have played an integral role throughout the entire project lifecycle, from requirement gathering to final testing and maintenance planning, while **acting as the primary liaison** between the team, CTO, and the client, ensuring seamless communication and alignment of project objectives.

The project entailed the development of a mobile first SPA utilizing **AngularJS, Ionic, and Cordova**, tailored to operate as a native app for mobile devices and tablets across iOS, Android, and Windows Phone operating systems. This approach, **reduced total development time and costs by over 70%** compared to developing multiple native applications. Notably, the application pioneered advanced features at the time, including **real-time positioning**, an incident reporting system with **push notifications**, and a true **offline mode**, setting new standards for the whole company.

Frontend and Android Developer

TEB Informatika d.o.o., Zagreb, Croatia, 05/2014 – 08/2015

I have contributed to various web applications, primarily focusing on **UI design** and occasionally implementing code based on specifications.

One of those applications, I have solely converted to a **native Android application** (due to performance issues), which merged **real-time video data with GPS coordinates and user input**.

Tutor and Programmer

Self-employed, Zagreb, Croatia, 05/2010 – 05/2014

During my time as a self-employed tutor (starting during my senior years of college), I provided personalized instruction to high school and college students across a broad spectrum of subjects, including various programming languages such as **Basic, C, C++, Java, JavaScript, SQL, PL/SQL, and more**. Over the course of several years, I had the privilege of **guiding over 100 students**, tailoring my teaching methods to meet their individual needs and learning styles.

Through this experience, I honed my ability to **communicate complex concepts in a clear and accessible manner**, fostering an environment conducive to learning and growth. I also developed **strong problem-solving skills**; as I often encountered unique challenges that required creative solutions.

While I initially considered establishing my own tutoring company, I ultimately decided to pivot towards greater industry involvement to deepen my practical knowledge and skills first.

Formal Education

- **Master of Science in Information and Communication Technology**
University of Zagreb, Faculty of Electrical Engineering and Computing
- **Bachelor of Science in Computing**
University of Zagreb, Faculty of Electrical Engineering and Computing

Recent projects

Please note that the projects outlined below were conducted through business-to-business (B2B) engagements and are therefore subject to various Non-Disclosure Agreements (NDAs), which restrict the level of detail I am

willing to disclose in this format. Additionally, I have omitted previous projects undertaken during my employment for brevity's sake. However, I am readily available to provide further information during the interview process.

Unstructured Data Extraction and Management Platform

As the most experienced developer within the in-house team, I took the lead in overhauling the outdated stack to bring it in line with modern standards. My primary objective was to select contemporary and reliable frameworks and libraries that the team could seamlessly transition to, using well-established technologies, meticulously selected to meet the project's requirements.

Following the initial setup, I introduced established design patterns and provided foundational code to implement essential functionalities such as routing, security, styling, theming, and data management in a simple, clear, and consistent manner. The result served as a template for others to both learn from and build upon during subsequent development phases. Additionally, I established coding conventions, structure, and naming to streamline collaboration within the team.

Throughout the project lifecycle, I was frequently called upon to address challenging decisions, develop specific functionalities, and resolve complex issues encountered by both individual team members and the team as a whole.

Graphing Library

After deliberating between using the limited free version of JointJS and the paid version (JointJS+), I was presented with an initiative to explore building on top of the free version to meet our specific requirements. However, upon closer examination, several significant deficiencies in the free version became apparent, including unreliable code, inadequate documentation, outdated dependencies and ES5 syntax. These shortcomings led me to conclude that using the free version directly in a serious project would not be wise, a sentiment later confirmed by the project manager.

As a result, a decision was made to develop a tailored, in-house library that would address these deficiencies and meet our specific needs. My task was to achieve the flexible list of requirements, leaving me with open hands to redefine it, expanding it when an additional functionality could be developed with minimal resources spent or reducing it when an inessential aspect became too time-consuming. In the end it took approximately 20% more time than the original estimate but included all of the essential and about 70% of features we originally labeled as impossible to achieve even in the double time frame. The result, in the form of a npm package is currently successfully integrated into two distinct projects, with plans for additional integrations in the future.

By deciding to augment the free version instead using the paid version, the contractor stands to save approximately six to ten thousand dollars per month in licensing fees alone. Moreover, the custom solution provides extended functionality and seamless integration that was not found in any of the available libraries we researched during the requirement listing phase.

Music Processing Application MVP

Developed a Minimum Viable Product (MVP) frontend app to demonstrate a machine learning-powered solution tailored for the music industry. The solution offers advanced instrument and vocals recognition, as

well as the capability for extraction, subtraction, or enhancement of specific instruments or vocals through a user-friendly interface

Data Management Platform

I have collaborated as an external partner with the in-house team on a project in the advanced stage of development, focused on managing semi-structured and unstructured data. The project encountered numerous challenges, including legacy errors and inconsistencies, various code styles, redundant and conflicting libraries, inconsistent data state, and more, resulting in significant accumulation of technical debt.

Reflecting on the project, it became evident that the underlying issue was not solely a lack of manpower, as initially stated, but rather a need for strategic intervention to address the above.

To address it, I have planned a multiple-phased approach where the team would work on the new set of functionalities while refactoring the past deficiencies. Typically, I would venture first, doing the most critical work and set up the guidelines on how to continue and where and what to refactor. This process included identifying the minimum set of dependencies, clarifying roles and responsibilities, defining modules, refactoring complex code into a more maintainable one, reorganizing component hierarchy, improving module, components, and API naming, optimizing API interactions, and much more.

As a result of these efforts, the team and I successfully transitioned the project to a more sustainable state and after it had entered the maintenance phase, I was contracted to work on their next project. While specific metrics of success were not provided due to severe lack of time, in my humble opinion the project's improved stability, finalization of development phase, and the adaptation of numerous practices I had introduced to the team into future projects of the company represent tangible results.

Network Intelligence Analytics Application

I was contracted to become the sole frontend developer on an in-house project focused on big data analytics of captured network traffic. The outcome was a sophisticated, low-latency, widget-based Single Page Application (SPA), empowering clients in visualizing and distilling vast datasets into actionable insights. Harnessing innovative technologies and using a user-centric approach, the product enables users to seamlessly transition from receiving warnings about potential issues to analyzing them and receiving recommendations for their resolution.

Formal Education

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More

Non-programming languages:

- **English** - Advanced
- **Croatian** - Advanced

- Bosnian - Intermediate
- Serbian - Intermediate
- Slovenian - Intermediate

StrengthsFinder by Gallup:

Ideation, Intellection, Restorative, Learner, Achiever

MBTI - Myers-Briggs Type Indicator:

ENTP - Extroverted, Intuitive, Thoughtful, Perceptive

Hobbies/Interest:

Natural sciences in general, reading, storytelling, economics, architecture, aesthetics, art, upbringing, tutoring, gaming, traveling