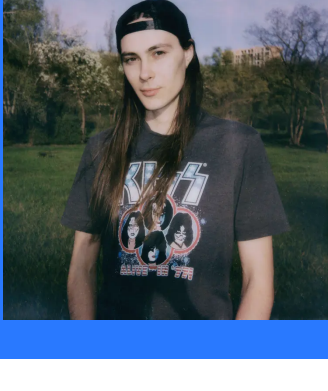




MICHAEL TINTIUC

FULL-STACK ENGINEER

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Introduction

I am an explorer, problem solver and tinkerer at heart with a background in design and arts, constantly seeking out new challenges and pushing both personal and technical limits to refine my craft. Curiosity, creativity and passion for engineering fuel my wide-ranging interests, from low-level programming and embedded systems to web applications and game development.

With over 10 years of remote full-stack engineering experience, I've built a unique blend of technical and soft skills. This includes updating legacy systems, architecting modern applications from scratch, debugging and fixing intricate, critical issues, taking on leadership roles, and working in high-pressure environments, staying focused and delivering results when it's most needed. I thrive in teams built on mutual respect, individual autonomy, and ownership - teams that embrace and fully leverage the benefits of asynchronous work and communication when working across multiple time-zones.

I take pride in writing clean, efficient and testable code, adhering to best practices and standards while staying mindful of the pitfalls of over-engineering and tech-debt, all with the goal of maximizing performance and enhancing the user experience.

As an advocate for open-source software I have contributed to multiple projects and authored the original [ionic/vue](#) library which I maintained and supported before it was accepted as a contribution to the official Ionic [repository](#).

My prior polar-opposite experiences of a vacuum-cleaner sales man of the month and an international high-fashion model shaped my character and exposed me to a far wider spectrum of life, cultures, and perspectives than I might have otherwise experienced. My hobbies, including skateboarding, snowboarding, design, music, and philosophy, have also had a profound and unique influence on both my personality and professional careers.

Skills

Front-end

Throughout my experience working within the JavaScript ecosystem, I've built applications, libraries, and tools with TypeScript, React, Next.js, Angular, Vue, Electron, RxJS, and Mobx.

I consider TypeScript an absolute necessity when developing modern applications. My experience with other typed languages made its adoption quite easy. Although at times verbose and hard to bend to your will, it is a rather pleasant feeling when you get a generic or other dynamic types right.

React is by far my favorite library, and I value its flexibility and ease of use the most. Its bold choice of foregoing the then-standard OOP in favor of functional programming had a major impact on my coding practices and influenced and benefited the community at large.

RxJS is one of the libraries that will either break or make a developer. I like to think that I fall into the latter category. It has one of the steepest learning curves I have ever encountered, but it is well worth the struggle. With its help, I've optimized data fetching, caching, and component dependencies, as well as created advanced inter-component communication systems. It is a very powerful yet risky tool, as misuse of a single operator or pipe may lead to unexpected and hard-to-find bugs.

Back-end

I've collaborated on projects built on both traditional and serverless infrastructure using Next.js, Vercel, Node.js, Drizzle, Zod, Golang, Python, PHP, MySQL, Postgres, MongoDB, Elasticsearch and DynamoDB.

I believe that the best results are achieved when the back-end and front-end teams have clear communication channels and work together prioritizing user experience.

Testing

A set of well-written unit tests is a major contributor to code quality and reliability. It is a practice often, overlooked, seldom considered by engineers during development, and one of the first to be abandoned come crunch time.

Over the years, I've developed a specific way of writing testable code by embracing the idea that the sole purpose of a test is breaking the code. It is achieved by primarily focusing on inputs and outputs, breaking down functions to their core logic and mocking everything else. It is an approach largely influenced by my experience in security, aiming for 100% coverage across all metrics, and keeping testing in mind while writing code.

As a result this allows to catch bugs early, leads to early optimizations and minimizes the need to refactor down the line.

Security

The movies Hackers and The Matrix sparked the interest, one that shaped my coding style and way of thinking, ultimately improving awareness of data sensitivity and validation. I've had experience with various tools provided by the Kali Linux distribution, reverse engineering, as well as contributing to Python tools and shell scripts. I occasionally take on [Hack The Box](#) challenges to further develop my skills.

Systems

I am most comfortable working within the terminal and Vim. I have experience developing CLI tools, setting up and managing private servers, writing shell and Python scripts, CI/CD pipelines, and managing Docker containers.

Work Experience

Front-end Technical Lead

Pfizer (contracted via Modus Create); Jun 2022 - ongoing

Content-driven mobile hybrid application built with Angular, Ionic and Capacitor for tracking and management of migraines and health. My responsibilities included development of an application-agnostic SDK that acted as a translation layer between the front-end and the back-end, code reviews, as well as taking ownership of critical bugs, tech-debt and performance optimization.

Notable achievements:

- Reduced the cold boot time to first render from 4 seconds to 8 milliseconds by refactoring and splitting the start-up service, shifting the order of operations, and replacing sequential calls with parallel ones.
- Developed an asynchronous system for pushing and pulling large data sets (1Gb and up) based on the concepts of batching, chunking and checkpoints.
- Optimized the amount of API requests by implementing differential cache updates.
- Optimized local database queries ranging from 0.5 to 1 second to just 1 millisecond by refactoring the data stores and resolving misuses of Mobx.
- Addressed several critical production-only bugs by refactoring the authentication flow and fixing RxJS implementations.
- Implemented Typia for type-safety of user generated data.
- Developed build tools using Typescript AST for data generation and code quality checks.
- Solved numerous tech-debt items by introducing the team to such concepts as functional programming and immutability that are often associated with React rather than Angular.

Front-end Technical Lead

Synchronoss (contracted via Modus Create); Feb 2021 - Jun 2022

Multi-platform white-label content-driven personal cloud application. I was tasked with transitioning the legacy Angular front-end client and native apps to a hybrid implementation built on React, Ionic, Capacitor and micro front-ends. Additionally, I provided guidance and mentorship to the existing team, assisting with the transition to the new technologies.

Notable achievements:

- Developed event-based systems for efficient communication between micro front-ends.
- Minimized re-rendering of components by memoizing critical data and keeping track of state updates.
- Achieved faster load times by prioritizing above-the-fold content and local caching.
- Achieved required customization goals, faster load times and smaller bundle sizes with the help of micro front-end architecture.
- Lowered development and maintenance cost by centralizing the code-base using the hybrid architecture.

Consulting Engineer

Workiva (contracted via Modus Create); Jul 2021 - Oct 2021

Finance and accounting web application. Developed with Go, Dart and cross-compiled to JavaScript. In this short exploratory engagement I enhanced the existing logging and performance tools by developing a custom adapter utilizing Dart's js and dart2js interop packages.

Full-stack Engineer

Hobsons/PowerSchool (contracted via Modus Create); Mar 2019 - Oct 2021

Student and school management web application. I led the front-end development using React and TypeScript. Additionally assisting with the migration of the legacy PHP/MySQL monolithic application to a modern serverless infrastructure utilizing Node.js, Lambda, S3, Elasticsearch and DynamoDB.

Full-stack Engineer

EDR (contracted via Modus Create); Mar 2017 - Mar 2019

Banking and finance web application. I was responsible for modernizing a large legacy PHP application. This was accomplished through the gradual integration of modern frameworks like Laravel and Vue. Further optimization was achieved by simplifying queries and splitting data-fetching responsibilities between the client and the server.

Full-stack Engineer, Designer

Freelance; 2010 - Mar 2017

I worked on a variety of projects, including logo design, brand identity development, creation of custom plugins for Joomla and WordPress CMS, and business management dashboards using JavaScript, Node.js, and PHP.

Personal Projects

Open Source contributions <https://github.com/michaeltintiuc>

I've contributed code to projects like Laravel, React Native, LBRY, and Capacitor, and documentation to Ionic and Vue.

Resume <https://github.com/michaeltintiuc/resume>

The very tool used to generate this resume, created to showcase my passion for engineering, was initially developed as a PHP application and has recently been refactored to Next.js.

GameShell 3D demo <https://michaeltintiuc.itch.io/gameshell-3d-godot-demo>

The goal was to demonstrate that a particular low-spec handheld device was not limited to 2D games. I am particularly proud of this achievement, as it was the first project to accomplish this on the hardware. The task was challenging, requiring me to recompile the engine from source, experiment with configurations, and optimize rendering performance utilizing various profiling tools while preserving as many features as possible. It was rewarding to share my experience and insights with the community and receive positive feedback in return.

Creative Engine <https://github.com/ModusCreateOrg/creative-engine/>

A C++ 2D game engine developed as part of the annual game jam initiative at Modus Create. As one of the largest contributors, I specialized in rendering algorithms, optimizations and new features for [Modite Adventure](#).

Additional Resources

I enjoy giving back to the community and engaging in knowledge sharing through podcasts, workshops and coding live-streams:

- [React Advanced 2022 Conference](#)
- [The Open Source Mindset](#)
- [Introduction of Ionic 5 and Vue 3](#)
- [Views on Vue 136](#)
- [Views on Vue 034](#)