

## Profile

mtib.dev · github.com/mtib · linkedin.com/in/mtib

Passionately design and develop high-performance modern fullstack software. Focussing on clean system architecture and thought through algorithms and datastructures. Enthusiastically apply bleeding-edge web technologies in the frontend and backend.

## Work Experience

### Lead Software Engineer

Colourbox & Skyfish ApS

2022 – now

Maintaining the in-house created e-commerce CMS and GDPR-compliant DAM-system using modern web technologies in the browser and AWS cloud. Focus on performance and stability. Establishing forward-thinking software architecture. Leading on the development of the reimplementing of “Skyfish” using best practices. Taking lead on UI/UX decisions as well as software architecture. Holding responsibility for multiple projects, tech-debt, as well as hiring decisions and communication with all stakeholders.

### Frontend Engineer

Colourbox & Skyfish ApS

2021 – 2022

Bringing well-typed TypeScript and knowledge about algorithms and data structures and my experience in building high-performance distributed applications to build on and improve the in-house e-commerce CMS and GDPR-compliant DAM-system as well as internal tooling. I accelerated the frontend development cycle and improved code and product quality with my attention to detail and ability to dig into the technical details. Occasionally working on fullstack and staff projects.

### Research Assistant

Institute of Operating Systems and Computer Networks @ Technische Universität Braunschweig

2018 – 2021

Assisting teaching in the Operating Systems and Cloud Computing courses, as well as back-end, CI/CD and Android app development. Teaching C, Git, Linux and Pair Programming as well as Cloud Computing toolchains. Focus on writing structured, maintainable, well-documented test-driven software in Python, Java, C, Go and Rust.

## Education

### Master of Science: Computer Science

Technische Universität Braunschweig

2021

I acquired the theoretical background and had hands-on experience with Machine Learning in Python (numpy & sklearn), Cryptography (SageMath), Cloud Computing (Ansible, Terraform, AWS), Monitoring (Prometheus, Grafana), CI/CI (Gitlab, Docker, K8s), BFT-SMR, Blockchain, Trusted Execution, Online Algorithms, Game Theory and Computational Geometry. Accompanied by a minor in Mathematics focusing on Linear- and Non-linear Optimisation.

Thesis: *“Resilient Byzantine Fault-Tolerance Using Multiple Trusted Execution Environments”* about safety critical BFT implementation using Intel SGX enclaves in Rust.

# Bachelor of Science: Computer Science

Technische Universität Braunschweig

2019

Minoring in Mathematics (Analysis, Algebra, Statistics), I gained the necessary theoretical knowledge as well as more practice in C/C++, Rust, Python, Java, Go. Software Engineering & Design, Theoretical Computer Science, Computer Engineering. Practical experience with Web Based Systems, REST-API and Full-Stack development.

Thesis: *"Low Latency Byzantine Agreement using RDMA"* revolving around a high performance zero-buffer-copy agreement framework implementation in Java.

## Higher Education Entrance Qualification (Abitur)

Schulzentrum Kühlungsborn

2016

Developing a Weather Monitoring System (WMS) full-stack web platform; which is an ongoing project providing user customisable automated weather predictions all around the world.

## Skills

Languages

My language skills include native proficiency in German and English, and a limited working proficiency in Danish. Understanding some Romanian and Russian. Two years of Latin make a neat party trick.

Tech Skills

I have a knack for reading documentation, and develop understanding extremely quickly. As such, I have picked up proficiencies in TypeScript, JavaScript, Rust, Python, C/C++, Java, C#, Dart (Flutter), Go and general Shell-Scripting among others. I am very familiar with Linux-based operating systems & environments, the kernel and some cloud platforms (DigitalOcean, AWS, OpenStack). I am moderately experienced with Android & IOS development, PHP, Ruby, Swift and Kotlin. Personally I find the modern web platform most interesting. Considering myself a full-stack developer, however, I like to point out how much of modern apps can be moved to the "frontend" considering what modern WebAPIs, WASM, Service/Web-workers and serverless functions enable today.

Recent Focus

I have experience developing software in all sizes of projects and teams. Most recently I have gained a detailed understanding of JS/TS+React apps interacting with REST-APIs to create high-performance web interfaces using web workers, WASM backed by lambdas and containerised services. I have an easy time picking up new development skills and knowledge from the documentation and can communicate well at different skill levels to give or gain knowledge. My social skills and ability to express myself give me a good handle on the information and skill exchange at several technical levels with all stakeholders. I enjoy working in a team, the community motivates my work and I love sharing knowledge. I have followed both Agile (SCRUM) and requirement-specification-based development. I oversaw and participated in Pair Programming and Test Driven Development.

Knowledge about modern tooling for CI/CD, Containerisation, Cloud Computing, from teaching students how to use them as a Research Assistant. Testing as well as tooling around Git, Linux (Kernel) and practical development and deployment of software projects is part of my daily workflow. I have experience with system's programming, cryptography, computational mathematics and modelling of data; and applied Machine Learning. I am proficient with the office suite and able to programmatically and manually create meaningful, interactive visualisations and diagrams. I host and manage a lot of services myself. Including: Gitea, Drone CI, OpenStack, Prometheus, Grafana, Home Assistant, and more; and know how to approach setting up a complex software system. Most of my personal and professional projects are well tested and have a custom CI/CD pipeline. I take pride in making my software well-documented and maintainable.

## Hobbies

I've always been a maker. Since I have started professionally working with software, I have not slowed down developing software in my free time. I tinker with IoT hardware, CAD, 3D-Printing and general manual craftsmanship. Painting on canvas and 3D-printed miniatures. Play board games with friends. I am an experienced violin player.