# Burak Şen Full Stack Software Developer

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github.com/burakssen

## SKILLS

Python | React | Docker | Pytorch | Libtorch | Jax | Onnx | C++ | CMake | Zig

## WORK EXPERIENCE

**Full Stack Software Developer** Jul 2024 – Present | Munich, Germany
*TUM Commonroad*

- Spearheaded the enhancement of the TUM Commonroad autonomous driving framework's website, serving **500+ active users** and **boosting engagement metrics by 15%.**
- Ensured **99% application uptime** through robust backend management and proactive maintenance.
- Optimized page creation workflows by implementing efficient Markdown rendering solutions.
- Delivered scalable web solutions with **ReactJS/Django**, r**educing deployment time by 10%.**

**Volunteer Software Developer** Apr 2025 – Present | Italy (Remote)
*Zant-Foundation*

- Worked on the **Z-Ant project**, **open-Source SDK** for easier and optimized deployment of **Neural Networks** on **edge devices.**
- Worked **Zig based backend server**, which uses **zap package** to serve the api.
- **Code generation** from **zant micro instructions** to **zig language.**

**Assistant Student (Software Development)** Dec 2022 – Oct 2023 | Munich, Germany
*TUM School of Computation, Information and Technology*

- Developed a **module creator/editor application** for the TUM School of Computation, Information and Technology, managing the project from inception to deployment.
- Architected and deployed a module editor application that accelerated workflow efficiency by **10% for 100+ faculty members,** while **reducing training time for new users.**
- Designed a robust system architecture using **ReactJS, ExpressJS, CouchDB, Docker, Redis, Nginx, and Shibboleth SP** to ensure scalability and reliability.

**Software Engineer** Apr 2022 – Aug 2022 | Istanbul, Turkey
*Map E-Commerce & Data Services Inc.*

- Engineered supply chain solutions, improving **data interoperability** and r**educing system processing time by 15%.**
- Engineered a **high-throughput data conversion system processing 150 million EDI messages annually**, seamlessly handling **XML, JSON, and VDA** format conversions with **99.9% accuracy.**
- Maintained a **Go backend** responsible for managing **hundreds of products**, ensuring system reliability and scalability.
- Utilized technologies such as **NodeJS, C++, and PHP** to deliver efficient and high-performance solutions.

**Internship in Software Development** Jul 2021 – Jan 2022 | Istanbul, Turkey
*IBM*

- Analyzed and visualized **10M+ row datasets** in R, producing insights that shaped **national-level HR policy** and optimized data workflows.
- Enhanced **IBM BPM platform** for **50+ enterprise clients**, ensuring **99.9% uptime** and expanding accessibility with **bilingual support (EN/TR)** using Java & JavaScript.
- Built enterprise solutions at **Doğuş Technology**, including an **ASPX-based vehicle portal** and **POS device integration**, leveraging **ASP.NET & MS-SQL** for scalable automotive finance systems.

## EDUCATION

**Master of Science in Informatics** Oct 2022 | Munich, Germany
*Technical University Of Munich*

**Bachelor of Science in Computer Engineering** Sep 2017 – Jun 2022 | Istanbul, Turkey
*Istanbul Technical University*

- GPA: 1.84

## PROJECTS

**JAXFLUIDS Simulation with TUMAER** Apr 2025 – Present

*A visualisation project for our jax based fluid dynamics framework.*

- Collaborated in the development of a **web-based platform** that **integrates JAX-Fluids simulations with ONNX models**, enabling easy access and interaction for users.
- Assisted in the implementation of features for **model selection, parameter tuning, and visualization of simulation** outputs.
- Contributed to the **optimization of the frontend application for performance and scalability.**

**jax2onnx** Apr 2025 – Present

*Jax model to ONNX model converter*

- **Contributed** to the development of a tool that converts J**AX, Flax (NNX), and Equinox** models into the **ONNX format**, streamlining the deployment of models across different platforms.
- **Implemented support for various JAX primitives**, enhancing the tool's capability to handle complex models and operations.

**Path Finding Visualiser** Jan 2024 – Feb 2024

*A visual path finding algorithm implementation.*

- Implemented **Multiple path finding algorithms**.
- **Animated visuals** created.
- Implemented **A*, Dijkstra, BFS, DFS** algorithms.
- **Pit Stops** added for **A* algorithm.**
- **Pause/Resume** functionality.

**Boids** Jan 2024 – Feb 2024

*A flocking simulation written in C++*

- An implementation of **Craig Reynolds' flocking algorithm.**
- It has three separate stages: **Separation, Alignment, Cohesion**
- Used technologies: **C++, raylib**

**Sorting Visualiser** Jan 2024 – Jan 2024

*A sorting visualisation application written in C++.*

- Developed **multiple sorting algorithms**.
- **Visualisation** for each algorithm.
- **Live update** on visual representation of the arrays.
- Notable algoritms: **HeapSort, MergeSort, QuickSort**
- Used technologies: **C++, CMake**
- Used frameworks: **raylib , ImGui , rlImGui**

## ORGANIZATIONS

**ZantFoundation** Apr 2025 – present

*Volunteer Developer*

- Developed the **architecture for an open-source SDK** enabling seamless optimization and deployment of **machine learning** models on **embedded and edge devices.**

**ITU ACM Student Chapter** Sep 2019 – Jun 2021 | Istanbul, Turkey

*Member*

- Have been **an instructor for the ITU ACM C course.**