Burak Şen

Munich, Germany | github.com/burakssen | linkedin.com/in/burak-ssen | burakssen.com

Technical Skills

- **Programming Languages**: Python, TypeScript, JavaScript, Zig
- **Web Technologies**: React.js, HTMX, Node.js, Express.js, Bun
- **Databases**: PostgreSQL, SQLite
- **AI & Machine Learning**: TensorFlow, PyTorch, ONNX, Jax
- **DevOps & Tools**: Postman, Docker, Git, Github Actions, Gitlab, Gitlab CI/CD

Experience

TUM CommonRoad | Full Stack Developer Jul 2024 — Present
Django | React | HTMX | PostgreSQL | Minio | Gitlab CI/CD *Munich, Germany*

- Designed and maintained a web framework serving **500+ active users** with **99% uptime**.
- Centralized application utilities by creating the **commonx** base package.
- Streamlined page creation workflows through efficient Markdown rendering.

Zant-Foundation | Volunteer Software Developer Apr 2025 — Present
Zig | ONNX *Italy, (Remote)*

- Contributed to an open-source SDK for optimized Neural Network deployment on edge devices.
- Developed a **Zig-based backend** and implemented code generation from micro-instructions.
- Achieved a **30% reduction in memory usage** via static allocation planning for embedded systems.

TUM CIT | Assistant Student (Software Development) Dec 2022 — Oct 2023
React.js | Express.js | CouchDB | Docker | Redis | Nginx | Shibboleth SP *Munich, Germany*

- Architected and deployed a module creator application for the TUM School of CIT.
- Improved workflow efficiency by **10%** for over 100 faculty members.

Map E-Commerce & Data Services Inc. | Software Developer Apr 2022 — Aug 2022
Node.js | C++ | PHP | Go | MySQL | XML | EDI | JSON | VDA *Istanbul, Turkey*

- Engineered a high-throughput system processing **150 million EDI messages** annually.
- Improved data interoperability and reduced system processing time by **15%**.
- Maintained a **Go backend** to ensure scalability for hundreds of products.

IBM | Internship in Software Development Jul 2021 — Jan 2022
R | IBM BPM | ASPX | .NET | MS-SQL | Java | JavaScript *Istanbul, Turkey*

- Analyzed **10M+ row datasets** in R to optimize national-level HR policies.
- Enhanced a BPM platform for 50+ clients, maintaining **99.9% uptime** and adding bilingual support.
- Developed automotive finance solutions and POS integrations using **ASP.NET and MS-SQL**.

Projects

JAXFluids Lab Apr 2025 — Nov 2025
React | Python | Jax | Onnx (dbezgin.github.io/jaxfluids-lab)

- Developed a web platform integrating JAX-Fluids simulations with **ONNX models**.
- Implemented features for model selection, parameter tuning, and output visualization.
- Optimized frontend performance for improved scalability.

jax2onnx Apr 2025 — Nov 2025
Python | Jax | Onnx (github.com/enpasos/jax2onnx)

- Contributed to and open source tool to convert **JAX, Flax (NNX), and Equinox** models into ONNX format.
- Expanded tool capabilities by implementing support for various JAX primitives.

zff Jan 2024 — Mar 2024
Zig | Raylib | WebAssembly (burakssen.com/zff)

- Developed a 2D fluid simulation in **Zig and Raylib** using the FLIP method.
- Leveraged **WebAssembly** to enable interactive, real-time browser execution.
- Enhanced engagement with mouse-input obstacle manipulation.

boids Jan 2024 — Feb 2024
C++ | Raylib | WebAssembly (burakssen.com/boids)

- Simulated flocking behavior in C++ using WebAssembly for online access.
- Modeled realistic entity interactions based on separation, alignment, and cohesion rules.

Education

Technical University of Munich (TUM) Munich, Germany

Master of Science in Informatics Oct 2022 — Present

Istanbul Technical University (ITU) Istanbul, Turkey

Bachelor of Science in Computer Engineering Sep 2017 — Jul 2022