

Burak Sen

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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 Django React HTMX PostgreSQL Minio Gitlab CI/CD	Jul 2024 — Present <i>Munich, Germany</i>
<ul style="list-style-type: none">• 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 Zig ONNX	Apr 2025 — Present <i>Italy, (Remote)</i>
<ul style="list-style-type: none">• 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) React.js Express.js CouchDB Docker Redis Nginx Shibboleth SP	Dec 2022 — Oct 2023 <i>Munich, Germany</i>
<ul style="list-style-type: none">• 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 Node.js C++ PHP Go MySQL XML EDI JSON VDA	Apr 2022 — Aug 2022 <i>Istanbul, Turkey</i>
<ul style="list-style-type: none">• 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 R IBM BPM ASPX .NET MS-SQL Java JavaScript	Jul 2021 — Jan 2022 <i>Istanbul, Turkey</i>
<ul style="list-style-type: none">• 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 React Python Jax Onnx	Apr 2025 — Nov 2025 (dbezgin.github.io/jaxfluids-lab)
<ul style="list-style-type: none">• 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 Python Jax Onnx	Apr 2025 — Nov 2025 (github.com/enpasos/jax2onnx)
<ul style="list-style-type: none">• 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 Zig Flip Fluid Simulation Zig Raylib WebAssembly	Jan 2024 — Mar 2024 (burakssen.com/zff)
<ul style="list-style-type: none">• 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 C++ Raylib WebAssembly	Jan 2024 — Feb 2024 (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)

Master of Science in Informatics

Munich, Germany

Oct 2022 — Present

Istanbul Technical University (ITU)

Bachelor of Science in Computer Engineering

Istanbul, Turkey

Sep 2017 — Jul 2022