

I'm Deniz, a Software Engineer from Portugal, currently pursuing a Master's degree in Computer Science in Denmark. I have a strong foundation in full-stack development, built through several projects spanning frontend, backend, and infrastructure. More recently, my interests have shifted toward lower-level and resource-constrained systems — edge computing, edge AI, and self-hosted infrastructure — areas where software meets hardware constraints.

EDUCATION

Master of Science in Computer Science and Engineering, <i>Technical University of Denmark</i>	Expected Jul 2028
Bachelor in Informatics and Computing Engineering, <i>Faculdade de Engenharia da Universidade do Porto</i>	Jul 2026
Highschool Diploma, <i>Grande Colégio Universal</i>	Jun 2022

SKILLS

Programming Languages	TypeScript, C++, Python, Java, Rust
Frameworks & Tools	React, Next.js, Tauri, MongoDB, PostgreSQL, Git, Docker, Cloudflare, Vercel, Kafka, Nest.js, Hono, Elysia, Microsoft Azure, Terraform, Microsoft Entra ID
Communication	Portuguese (Native), English (Cambridge C1), Turkish (Spoken)

TECHNICAL EXPERIENCE

Student Assistant — AI Engineer <i>Pandora</i>	Sep 2026 — Present <i>Copenhagen, Denmark</i>
---	--

- Supported the exploration and development of internal AI-enabled tools and workflows to reduce manual effort, improve productivity, and support cost-efficient operations.
- Investigated opportunities to apply AI to internal processes, translating operational needs into practical automation and tooling ideas.
- Worked with enterprise cloud and infrastructure technologies, including **Microsoft Azure**, **Terraform**, and **Microsoft Entra ID**.
- Applied secure, scalable approaches for integrating AI capabilities into internal systems and organizational workflows.

Curricular Internship / AI Based Compilation for CGRA's <i>INESC TEC</i>	Feb 2026 — Jul 2026 <i>Porto, Portugal</i>
---	---

- Research position at **INESC TEC**, working on project AIMACOV.
- Developed a GNN-Guided partitioning algorithm combined with SAT solving, to map DFGs onto CGRAS.
- Reduced mapping times by $\approx 50\%$, compared to exhaustive search methods.
- Improved partitioning quality by $\approx 33\%$, compared to unguided approaches.
- Published a paper on the proposed methodology in INForum 2026 as first author - **GNN-Guided Graph Partitioning for Spatial CGRA Mapping**.

Co-founder & Full-stack Software Engineer <i>Ocean Informatix</i>	Jan 2024 — Jan 2026 <i>Porto, Portugal</i>
--	---

- Led end-to-end development of custom software and web solutions as the sole engineer, owning architecture, implementation, deployment, and maintenance.
- Collaborated directly with clients to understand business needs, translate them into technical requirements, and iterate quickly based on feedback.
- Designed and implemented solutions across multiple tech stacks, adapting to each client's preferred frameworks, environments, and constraints.

Alojamento Ideal https://alojamientoideal.pt	Jun 2025 — Sep 2025 https://github.com/denizlg24/alojamientoideal
---	--

- Designed and implemented a full-stack web app for property and activity booking and travel management using **Next.js 15**.
- Implemented a dynamic booking system with real-time availability updates integrated with the **Hostify** property management system, **Hostkit.pt** for invoicing and border control and **Bokun** for activities.
- Integrated payments with **Stripe** for secure payments and reliability.
- Deployed on **Vercel**, and using **MongoDB** for data storage.

Shortn.at https://shortn.at	Jun. 2023 — Feb. 2024 (V1) May 2025 — Jan 2026 (V2) https://github.com/denizlg24/shortn_v2
--	--

- Shortn.at was my first full stack project. It started as a personal project but managed to retain some customers.
- As of Jan. 2026, I published V2 of Shortn and am now maintaining it and posting regular updates.
- Version 2 was a complete rewrite of the project, due to a bigger volume of clients and new needs, and because there were now many new technologies.
- Version 2 is built on **Next.js 16**, with the new **React Compiler**. The database selection was kept although I followed better principles thus increasing efficiency.
- Version 2 had a full **CI/CD** pipeline with GitHub Actions and is iterated using Agile methodologies, with Sentry for error monitoring.

PERSONAL PROJECTS

Self-Hosted Infrastructure & AI Agent Platform
denizlg24.com

Sep. 2025 — Present
<https://github.com/denizlg24/denizlg24.com>

- Designed and operated a self-hosted application platform across Raspberry Pi and Forge servers, running APIs, databases, object storage, search, Redis, and multiple applications behind **Cloudflare Tunnels** and **Tailscale**.
- Built **Forge**, a deployment control plane and host agent for container builds, deployments, routing, health gates, host telemetry, runtime log streaming, rollback, and controlled container operations.
- Implemented a centralized authentication and authorization service shared across the platform's web applications, desktop client, infrastructure dashboards, and agent integrations, with session management, scoped credentials, API keys, and service-to-service authentication.
- Implemented security and reliability boundaries for resource-constrained infrastructure, including default-deny networking, tailnet-only administration, constrained Docker access, isolated terminal execution, resource-aware Raspberry Pi deployment, and encrypted, signed, offsite disaster recovery with verified restores.
- Built an **MCP-based integration layer** exposing platform capabilities to the in-app AI agent through typed, permission-aware tools, with a pluggable architecture for external agents.

ACTIVITIES

Handball Player	2019 — 2024
National U19 Handball Team Goalkeeper	Summer 2019
<i>Represented Portugal in the national team of U19 Handball, to a 6th place finish in the U19 World Championship.</i>	
American Football Player — Schwabisch Hall Unicorns	Summer 2024
<i>At 20 years old, and after changing to American Football, I embraced the challenge of living independently in Germany. I celebrated a significant achievement by winning the German American Football South Division as part of the team.</i>	