Deniz Gunes

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Education

Faculty of Engineering of the University of Porto   Porto, Portugal
Bachelor's in informatics and computing engineering [Computer Science]   Expected 2026

Grande Colégio Universal   Porto, Portugal
GPA: 192.3/200, Graduated top of my class with excellence awards.   2022
Competed in Math Olympiads multiple times. I volunteered with an Institution called Kukula to help kids in Africa.

Skills & Interests

Technical: Typescript, Javascript, Rust, C++,C , C#, Python, Java.
Technologies: Next.js, React, Vite, Redux, Zustand, MongoDB, SQL, Postgres, Mongoose, Prisma, Git, Gitlab, GitHub actions, Cron, Node, Express.js, Fastify, Jest, Tauri, Docker, Cloudflare, Neon, Kafka, MQTT, Unity.
AI Tools: Claude Code, Cursor, Agent Enhanced Development.
Language: Portuguese (Native), English (Fluent / C1 Certificate from Cambridge English), Turkish (Spoken)
Interests: Full-stack Development, AI and Machine Learning, Embedded Systems, Chip Design.

Experience

INESCTEC   Porto, Portugal
Curricular Internship in AI Based Compilation for Custom Hardware   Jan. 2026 – Jun. 2026 (expected)
- Explored and analyzed how Artificial Intelligence can help automate the mapping of computational graphs onto custom hardware.
- Developed an inference engine that parses ONNX models and translates their computational graph operations into a custom hardware instruction set for execution on specialized hardware.

Ocean Informatix   Porto, Portugal
Co-founder & Full-stack Software Engineer   Jan. 2024 – Jan. 2026
- 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.
- Gained practical experience that blends technical execution, product thinking, and client-facing communication skills.

Alojamento Ideal   https://alojamentoideal.pt
Developed a Booking and Travel Web App - Repository   Jun. 2025 – Sep. 2025
- Designed and implemented a full-stack web app for property and activity booking and travel management using **Next.js 15**.
- Developed a responsive front-end with intuitive UI/UX using **TailwindCSS** and **shadcn.ui.**
- 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.
- Ensured data persistence and scalability using **MongoDB**.
- Integrated payments with **Stripe** for secure payments and reliability.
- Deployed to **Vercel**.

Shortn.at   https://shortn.at
Developed a Bit.ly Clone - Repository   Jun. 2023 – Feb. 2024 (V1) May 2025 – Jan 2026 (V2)

- Shortn.at was my first full stack project. It started as a personal project but currently has a few clients that pay a monthly fee.
- The first version was made using **Vite** with **React** for the front-end and **ExpressJS** for the backend.
- The database selected was **MongoDB** with the **mongoose** ORM.
- 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 **NextJS 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.
- Version 2 has a completely new authentication and payment system, now integrating with **Polar.sh**

Envoy CLI   https://envoy-cli.vercel.app
Developed a .env file versioning tool - Repository   Jun. 2025 – Sep. 2025

- Designed and implemented a Git-like system for securely versioning and synchronizing .env files across environments, combining a **Rust** CLI with a **Hono** API.
- Built an end-to-end encryption model using **Argon2id** for key derivation and **XChaCha20-Poly1305** for authenticated encryption, ensuring zero-knowledge storage of secrets.
- Implemented encrypted blob storage with content-addressable hashing (SHA-256), manifest versioning, and deterministic recovery of deleted files.
- Developed a robust session-based passphrase caching mechanism to balance strong cryptography with developer experience.
- Architected file-level encryption and diff-aware restore semantics, allowing historical recovery even after manifest updates.
- Implemented a modular command architecture (init, push, pull, remote, status) and cross-platform support.
- Designed a secure OAuth device-flow authentication system (GitHub) with token persistence and scoped API access.
- Built a serverless API using **Hono** on **Vercel**, backed by **PostgreSQL** on the **Prisma ORM** and object storage for encrypted artifacts.

Leadership & Activities

Handball Goalkeeper   Porto, Portugal
Team management, Teamwork, Discipline.   Nov. 2019 – Apr. 2024

- As captain of my team, I led us to a commendable 4th place in the national championships. I have proudly represented Portugal in the national team of U19 Handball, as the starting goalkeeper, contributing to our impressive 6th place finish in the U19 World Championship.

American Football Player – Schwabisch Hall Unicorns   Porto, Portugal
Team management, Teamwork, Discipline.   Jun. 2014 – Sep. 2024

- At 20 years old, and after changing to American Football, I embraced the challenge of living independently in Germany with four American roommates. This experience enriched my life skills and fostered my maturity as an adult. I celebrated a significant achievement by winning the German American Football South Division as part of the team.