

Dinis Marques (dbaltaza)

Software Engineering Student @ 42 Lisboa · Product Designer

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PROFILE

Multidisciplinary student combining a background in product design with software development. Trained in concept creation, prototyping and functional design at Escola Artística António Arroio, now studying software engineering at 42 Lisboa through a practical, project-based curriculum in C and Python. Interested in building smart, efficient solutions at the intersection of technology, design and innovation.

PROJECTS

call_me_maybe — turns a natural-language sentence into a JSON function call with a 0.6B-parameter language model, using constrained decoding so the output is always parseable. Python · LLMs

codexion — multithreaded take on the Dining Philosophers problem: coders compete for shared resources, with FIFO and EDF scheduling. C · pthreads · mutexes

metro — pixel-art Lisbon metro simulation: four lines running, enterable stations, board a train and ride it. Python

fly-in — drone fleet routing with Dijkstra pathfinding, turn-based scheduling and a pygame replay. Python · graphs · pygame

push_swap — optimised sorting using two stacks and a restricted instruction set. C · algorithms

a-maze-ing — maze generator with multiple generation algorithms, pathfinding solvers and terminal visualisation. Python

Libft · ft_printf · get_next_line — own C standard library, a printf reimplementation and buffered line reading from file descriptors. C · memory management

dbaltaza.pt — this portfolio: a Y2K arcade menu with a WebGL water simulation and a small Windows XP-style window manager, in plain HTML, CSS and JavaScript. JavaScript · WebGL

EXPERIENCE

Product Designer (Internship) · TO DO Gruppe, Jul 2025 – Aug 2025
Bremen

- Designed and developed a phone stand with a minimalist, Apple-inspired aesthetic, from concept to prototype.
- 3D modelling and technical development in AutoCAD and Autodesk Inventor; 3D printing for prototyping and testing.

EDUCATION

42 Lisboa · Computer Software Engineering Oct 2025 – Apr 2027 (expected)

- Peer-to-peer, project-based programme in C, Python, algorithms, concurrency and Unix systems.

Escola Artística António Arroio Sep 2022 – Jun 2025

Secondary Education in Arts, Industrial and Product Design

- Product and interior design: concept creation, prototyping, spatial thinking and functional design.

LANGUAGES

C Python Lua JavaScript
HTML/CSS

TECHNICAL

Algorithms Data structures
Concurrency (pthreads)
Memory management
LLMs · constrained decoding NumPy
Pydantic pygame WebGL

TOOLS

Git & GitHub Linux / Unix VS Code
Make

DESIGN

AutoCAD Autodesk Inventor
3D printing Prototyping
Product design

CERTIFICATION

Specialized Artistic Education in Product Design

INTERESTS

Skateboarding · product design