Francisco Cunha

Delft, the Netherlands — hello@franciscunha.com
franciscunha.com — linkedin.com/in/francunha — github.com/franciscunha

EDUCATION

BSc in Computer Science and Engineering — Delft University of Technology
Cum laude. GPA 8.4/10. — 2022-2025

EXPERIENCE

Delft University of Technology — Sep 2023 - Jun 2025
Teaching Assistant — Delft, Netherlands

- Taught and graded course work and exams for core CS subjects, including OOP, Logic, Software Engineering and Computer Networks.
- Led 35 TAs as Head Teaching Assistant for Computer Organization, driving improvements to course material, task coordination and communication.
- Guided 12 project groups on scope management, feasibility, and client interactions.

DHAUZ — Apr 2022 - Jul 2022
Data Science Intern — Brazil (Remote)

- Performed data analysis and developed optimization models to guide supply chain decisions, reducing client's operational costs by 5% and inventories by 12%.

Logistics and Optimization Group UFPB — Apr 2020 - Jun 2022
Undergraduate Researcher — João Pessoa, Brazil

- Co-authored a Springer-published paper proposing an algorithm that reduced university energy consumption by 26% through better assigning its 3046 classes to 97 locations.
- Led development of the the SACI online platform across front-end, back-end and optimization models. SACI uses optimization-based tools for decision-making and has been used by 300+ students and faculty members.

MAJOR PROJECTS

Alexandria — *Front-end development, TypeScript, Git, CI/CD, Docker, SCRUM, Leadership*

- Developed the React/Next.js front-end for a social media website that uses Quarto projects as posts that may be authored collaboratively by multiple users.
- Led a team of 5 developers, coordinating team meetings, stakeholder communication, and managing the development process through SCRUM.
- Implemented a Dockerized workflow and GitLab CI/CD pipeline to automate builds and testing.

Procedural texturing for pixel art — *Image processing, Scientific research, Python, OpenCV, NumPy*

- Implemented an image processing tool that procedurally adds detail to pixel art. The project is written in Python using OpenCV for image manipulation.
- Developed novel method to create vector fields from simple user drawings through solving a Poisson equation, implemented using NumPy.

GPU software rasterizer — *Low-level programming, Parallel computing, C++, CUDA, Linear algebra*

- Implemented a software rasterizer using GPU kernels, adapting sequential algorithms for parallel execution.
- Wrote low-level C++/CUDA with explicit memory management and synchronization across host and GPU.

SKILLS

Programming languages: Python, C++, Java, JavaScript, TypeScript, C#.
Web & Tooling: React, Next.js, Node.js, Docker, Git, CI/CD, REST APIs, Linux/Bash.
Data & Optimization: NumPy, Pandas, PyTorch, Gurobi, CPLEX, OpenCV, CUDA.
Soft skills: Leadership, Critical thinking, Teamwork, SCRUM, Technical communication, Project management.