Gil **Teixeira**

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Full-stack Software Engineer · React, TypeScript, Python, Node.js

Summary

I've built web apps professionally since 2021, mostly React and TypeScript up front with Python (FastAPI) or Node.js behind them. Outside work I automate whatever is repetitive, with Playwright and OpenCV bots and browser extensions like Accessible Find in Page, published on the Chrome and Firefox stores. I've also worked closer to the hardware, from a startup's ESP32 EV chargers to a pipelined MIPS CPU on an FPGA.

Experience

A-to-Be

Software Engineer — *Feb 2026 – Present*

- Front end for MODALSHIFT, a Horizon Europe project on multimodal transport and traffic management: a React and TypeScript app with maps, live data and dashboards.

React · TypeScript · TanStack · MapLibre · SignalR

Morphotech

Software Engineer — *Feb 2024 – Present*

- Full-stack work, currently on Verassay: a React and TypeScript front end, and a Python (FastAPI) back end on PostgreSQL and AWS.

React · TypeScript · Python · FastAPI · PostgreSQL · AWS

Plug Here

Lead developer — *Sep 2023 – Oct 2026*

- A startup's EV-charging system for apartment buildings, built almost entirely by me: the React Native app, the Node.js API on PostgreSQL, the ESP32 charger firmware and the MQTT link between them. It reached a working prototype, not production.

React Native · Expo · Node.js · PostgreSQL · MQTT · ESP32

Instituto de Telecomunicações

Researcher — *Jul 2021 – Jul 2024*

- A research grant on cooperative intelligent transport systems, which became my master's dissertation: a React Native app for V2X messages, an ETSI-layered C++ stack for on-board and roadside units, a journal paper, and the Android light sensor in Expo.

React Native · C++ · C · MQTT · ASN.1

Projects

Accessible Find in Page

TypeScript · React · WXT — *2023 – Present*

- A Ctrl+F replacement for people with low vision: large custom highlights, a magnifier, read-aloud and colour profiles for different eye conditions.

Audit Waiting

TypeScript · React · KonvaJS — *2022*

- Audits domestic hot-water circuits: draw the installation in a KonvaJS editor and get the waiting time and wasted water for every room in the final report.

PokeMMO Farm Bot

Python · OpenCV · PyAutoGUI — *2022 – 2023*

- An OpenCV and PyAutoGUI bot that farms PokeMMO for hours and sends a Gotify notification when it needs a human.

React Native Nordic Thingy

TypeScript · React Native · Expo — *2024*

- A React Native hook that connects to a Nordic Thingy over Bluetooth Low Energy and streams its temperature, humidity, pressure and battery level.

Metin2 Farm Bot

Python · OpenCV · PyAutoGUI — *2021 – 2025*

- A computer-vision bot that plays from screenshots alone: HSV masks find monsters and health bars, with no code injection or memory reads.

Raspberry Pi Home Server

NixOS · Nix · nginx — *2021 – Present*

- Everything my Raspberry Pi 4b runs, as a NixOS flake: this site, Plug Here, Nextcloud, Gotify and the old project demos, with Let's Encrypt, sops secrets and a VM test that boots it all.

Open Source

expo/expo

Merged

Add the Android light sensor to expo-sensors — *2022*

- Released in Expo SDK 47. Written for the C-ITS app in my dissertation.

Milkdown/milkdown

Merged

Fix the submit button on Crepe's inline edit confirm — *2025*

Publications

Sensors 23(3), 1724 (MDPI), Editor's Choice

A Modular In-Vehicle C-ITS Architecture for Sensor Data Collection, Vehicular Communications and Cloud Connectivity — *2023*

- D. Rocha, G. Teixeira, E. Vieira, J. Almeida, J. Ferreira

Education

University of Aveiro

MSc in Informatics Engineering — *2021 – 2024*

- Dissertation at Instituto de Telecomunicações, graded 18/20.

University of Aveiro

BSc in Computer and Telematics Engineering — *2018 – 2021*

Conservatório de Música de Águeda

Violin, 8th grade — *2017 – 2025*

- The last grade of the conservatory course.

Skills

Front end	React | TypeScript | React Native | Expo | TanStack | Tailwind CSS
Back end	Python | FastAPI | Node.js | Express | PostgreSQL | MQTT
Automation	Playwright | OpenCV | PyAutoGUI | browser extensions
Tooling	Git | Docker | Nix | AWS | Vite | Bun
Low level	C | C++ | ESP32 | Zephyr | VHDL
Languages	Portuguese (native) | English (near-native)