

Vagner Bessa

Full-stack & AI Engineer · Physicist

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Crateús, CE, Brazil · Remote (UTC-3)

Full-stack and AI engineer — physicist by training — who designs and ships production-grade AI products and web platforms end to end, from LLM agents and APIs to the interfaces people use. Strong in Python and TypeScript, with experience leading government-tech ML and multi-tenant SaaS delivery. Tenured professor and researcher (co-author of a 130+ citation Nature Physics paper). Open to international freelance projects and roles.

CORE SKILLS

Languages

Python, TypeScript, JavaScript, C++, Bash

Backend & AI

FastAPI, Django, aiohttp, Fastify, Mastra (AI agents), LLM/RAG, XGBoost / ML

Frontend

React, Svelte, Tailwind CSS, DaisyUI, Vite

Data & Infra

PostgreSQL, Prisma, Docker, Google Cloud Run, Prometheus/Grafana, Linux

EDUCATION

MSc in Physics

Universidade Federal do Ceará (UFC) · 2010–2012

BSc in Physics

Universidade Federal do Ceará (UFC) · 2006–2009

OPEN SOURCE

Weberist *2

Stealth web-automation framework on Selenium; passes major bot-detection systems; Docker-ready.

Aigents

Provider-agnostic LLM adapter library (Python).

LANGUAGES

Portuguese (native) · English (fluent) · Spanish (basic)

EXPERIENCE

Lead Developer & Technical Coordinator — RHIA

2026 – present

AI-assisted HR platform · EMBRAPA II / IFCE in partnership with Jubilato

- Lead technical delivery; coordinate backend, frontend and modeling workstreams.
- Defined multi-tenant, LGPD-aware architecture and AI-documentation conventions.

Lead Developer / ML & AI Engineer — BitGov

Mar 2025 – present

Public-sector supplier credit-risk AI · IFCE Innovation Hub / Nova BitGov – FINAI (Mar 2025–Feb 2026) → FinRePAI

- Built adaptive multi-agent extraction from transparency portals (200+ sources, scalable to 5,500 municipalities).
- Developed supplier rating (survival models), backtesting/validation and LLM-based explainable reports.
- Authored the core bitgovprocessor ML package.

Professor of Physics (tenured) — IFCE, Campus Crateús

2014 – present

Full-time (dedicação exclusiva). Researcher: superconductivity / Josephson vortices, nonlinear dynamics. Advised undergraduate theses.

SELECTED RESEARCH

Roditchev, Brun, ... [Bessa, V. H. L.](#), ... Cren. "Direct observation of Josephson vortex cores." *Nature Physics* 11, 332–337 (2015). **130+ citations.**

Bessa & Guedes. "The quantum Lane–Emden-type Kanai–Caldirola oscillators." *J. Math. Phys.* 53, 122104 (2012).

SELECTED PROJECTS

Agente Clínicas — AI WhatsApp service for clinics

TypeScript Fastify Prisma Mastra WhatsApp React

FinRePAI · BitGov — gov-tech credit-risk AI

Python Django XGBoost LLM agents

Expense Tracker AI — conversational finance app

Natural-language input, AI insights and forecasts; mobile-first.

React 18 TypeScript Vite TanStack Query