Michael César Fernandes Lopes

Full-stack Developer | Data and AI | Cloud

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PROFESSIONAL SUMMARY

Full-stack developer and systems analyst working across data, AI and cloud, with hands-on experience in QA and UX/UI. I serve product companies end to end, from cloud architecture to a product running stably in production. At JuscIA, I designed the Google Cloud architecture that sustains over 1 million requests per week at a monthly infrastructure cost under R$ 700, and shipped in one month the first stable release of a platform that had gone two years without one. International experience at Thalocan Research Innovations, building technology for dermatology clinical trials, plus applied computer vision research at IFRN reaching 92% accuracy.

WORK EXPERIENCE

Founder and Software & Data Consultant | Bootcom

Jan 2025 - present

Natal, Brazil (remote)

- Founded and run an AI software and data consultancy, owning prospecting, technical proposals, architecture, development, deployment and support.
- Serve clients across different industries (marketing, retail, entertainment and services) with custom systems, data consulting and digital presence work.
- Structure data flows, tracking and KPIs so clients decide by numbers instead of intuition, always with attention to data protection (LGPD).
- Standardized architecture, CI/CD and security review as part of every delivery, reducing rework and production incidents.
- Run the full project cycle with the client: requirements, timelines, scope validation and post-delivery follow-up.

Full-stack Developer and Systems Analyst | Plannus CRM

Sep 2026 - present

Remote

- Audited a CRM already in production, with a 36k-line API covered by just 4 test files, and logged 33 evidence-backed findings, 7 of them critical.
- Closed every blocker in 10 days of fix rounds, turning each lesson into an executable guard that fails the build.
- Grew API tests from 11 to 487 cases (121 of them end-to-end against a real Postgres) and app tests from 3 to 482.
- Migrated the system from a manually deployed VM to Cloud Run, with all infrastructure described as code.
- Set a 500-line ceiling per file, breaking up the largest at 2,698 lines, and recorded 11 architecture decisions as ADRs.
- Standardized 258 routes under a single envelope with an exported OpenAPI contract and grew database indexes from 26 to 53.

Full-stack Developer and Systems Analyst | JuscIA

Jul 2026 - Oct 2026

Remote

- Shipped in one month the platform's first stable release after two years without one, including two features previously considered unfeasible, in under a week.
- Rebuilt the architecture on Google Cloud, now sustaining over 1 million requests per week at a monthly infrastructure cost under R$ 700, roughly 75% below the previous cost.
- Fixed 24 serious security flaws, from authentication to cross-account access control, and made security review part of every delivery.
- Grew the test suite from 8 to 63 files with over 770 tests, and brought the database under 77 versioned migrations instead of automatic schema sync in production.
- Cut production processes from 6 to 1, replacing five auxiliary services with persistent Redis queues and automatic retries.
- Built the 13-screen admin panel from scratch and standardized the API's 282 endpoints under a single pattern.
- I remain the platform's developer, owning maintenance and evolution after delivery.

Full-stack Developer and Systems Analyst | Toca aê Sep 2025 - Mar 2026

Remote

- Designed and built the entire system single-handedly, from first commit to production with real clients in five months.
- Music request and Pix tipping SaaS with 4 integrated panels: customer, artist, venue and admin.
- 2,792 automated back-end tests covering 92.9% of modules, with testing part of the flow from the first commit.
- Infrastructure as code across 8 provisioned modules and 22 API route groups documented and catalogued automatically.
- A codebase built to last: 14 modules with their own documentation and 167 reusable UI components, across 123k lines of front end and back end.
- I remain the platform's developer, owning maintenance and ongoing evolution.

UX/UI Designer | Thalocan Research Innovations May 2024 - Dec 2025

Remote · Indianapolis, USA

- Owned UX/UI design for both Thalocan Research Innovations products, a US company building technology for dermatology clinical trials: LAMA, the AI lesion analysis app, and Order Request, the institutional client communication system.
- Created high-fidelity Figma prototypes with animated, clickable flows, validating decisions with stakeholders before they became code.
- Built reusable components shared across both systems, giving visual consistency and cutting implementation work for the team.
- Focused on usability over aesthetics: redesigned flows so every screen made sense to its user and required fewer steps on critical tasks.
- Proposed interface solutions from pain points raised with the team, translating clinical and commercial requirements into usable screens.

QA Analyst | LAMA (Thalocan Research Innovations) Jan 2025 - Jul 2025

Remote · Indianapolis, USA

- Worked as QA on LAMA (Lesion Area Mapping Assistant), a mobile app with on-device AI that detects skin lesions, identifies their type and grades severity from the phone camera.
- Validated lesion progression tracking across treatment, the feature that measures drug effectiveness in the clinical trials the company serves.
- Wrote and maintained automated test suites with Jest and Selenium, expanding coverage and reducing regressions between releases.
- Ran black-box testing on critical flows, validating the product from the perspective of the physician using it during care.
- Produced quality reports with evidence and severity classification, used by the team to prioritize fixes.
- Worked in a high-stakes context: a defect in clinical support software has direct consequences for medical decisions.

Full-stack Developer | Order Request (Thalocan Research Innovations) Jan 2025 - May 2025

Remote · Indianapolis, USA

- Built Order Request, the communication and approval system between Thalocan Research Innovations, a US company building technology for dermatology clinical trials, and its institutional clients such as hospitals and large companies.
- Built the full request flow: catalogue of offered services, request submission, client approval or rejection, and status tracking, all inside the system.
- Implemented scheduling for mentoring sessions and studies, replacing scattered message threads with a single traceable record.
- Django back end with APIs and data modeling; Next.js front end, from the request form to the tracking dashboard.
- Worked inside a US clinical research technology company, following the team's quality and code review standards.

Research and Outreach Scholarship Member | NADIC / IFRN 2022 - 2023
Natal, Brazil

- Official IFRN research scholarship holder at the research, development and innovation lab (NADIC), advised by Prof. Dr. Demetrios Coutinho.
- Outreach project approved under call no. 04/2022-PROEX/IFRN and selected for presentation at IFRN Natal.
- Built, in a pair, an IoT and computer vision application that monitored mask usage, uniform compliance, body temperature and crowding in real time during the Covid-19 pandemic.
- Applied fine-tuning to a pretrained model with over 1,000 images, reaching 92% classification accuracy, a technique still uncommon in undergraduate projects at the time.
- Built the OpenCV video pipeline and used TensorFlow and YOLO to detect people and classify each one in real time.
- Implemented crowding detection via Euclidean distance, solving the camera's depth problem, which reads people on different planes as standing side by side.
- Integrated a temperature sensor into the system, combining the checks into a single pass through the entry point.
- Delivered a tutorial-style webinar on the project, teaching participants to replicate the application remotely, with live Q&A.

EDUCATION

B.Sc. in Computer Science 2026 - present
Universidade Potiguar (UNP)

Associate degree in Systems Analysis and Development 2021 - 2026
Instituto Federal do Rio Grande do Norte (IFRN)

Technical degree in Business Administration 2017 - 2019
Universidade Federal do Rio Grande do Norte (UFRN)

RESEARCH AND OUTREACH

Webinar on Real-Time Monitoring of Face Mask Usage and Body Temperature Measurement 2022
Call for proposals no. 04/2022-PROEX/IFRN, Outreach Program | Instituto Federal do Rio Grande do Norte (IFRN), NADIC Scholarship holder, development and presentation | Advisor: Prof. Dr. Demetrios Coutinho

- IoT and computer vision application with TensorFlow, YOLO and OpenCV to detect mask usage, uniform compliance, body temperature and crowding in real time.
- Fine-tuning of a pretrained model with over 1,000 images, reaching 92% accuracy.
- Project selected for presentation at IFRN Natal.
- Tutorial-style webinar so participants could replicate the application remotely.

UX/UI, QA and Full-stack Development in Clinical Trial Technology 2024–2025
International fellowship, US clinical trial technology company in dermatology | Thalocan Research Innovations · Indianapolis, EUA
Fellow — UX/UI Designer, QA Analyst and Full-stack Developer | Advisor:

- Owned UX/UI design for two products: LAMA, the AI lesion analysis app, and Order Request, the institutional client communication system.
- Created high-fidelity Figma prototypes with animated, clickable flows, validating decisions with stakeholders before they became code.
- Worked as QA on LAMA (Lesion Area Mapping Assistant), a mobile app with on-device AI that detects skin lesions, grades severity and tracks progression during treatment.
- Wrote and maintained automated test suites with Jest and Selenium, expanding coverage and reducing regressions between releases.
- Built the full Order Request system: service catalogue, request submission, client approval and status tracking. Django back end, Next.js front end.
- Worked in a high-stakes context: a defect in clinical support software has direct consequences for medical decisions.

SKILLS

Front-end: React, Next.js, Angular, TypeScript, JavaScript, Tailwind CSS, Design systems

Back-end: Node.js, Python, Django, REST APIs, OpenAPI, PostgreSQL, Redis, Queues and async jobs

Data: Data modeling, SQL, Analytics and BI, Dashboards and KPIs, ETL, Tracking

Cloud and DevOps: Google Cloud (Cloud Run), AWS (EC2, RDS, S3, CloudFront), Docker, CI/CD, Infrastructure as code, Linux

Artificial Intelligence: LLMs and AI APIs, TensorFlow, YOLO, OpenCV, Fine-tuning and transfer learning, Computer vision, IoT, AI assistants and automation

Quality Assurance and Testing: Jest, Selenium, Automated testing, End-to-end testing, Black-box testing, Test coverage, Quality reporting

UX/UI and Product: Figma, High-fidelity prototypes, Animated flows, Usability, Requirements gathering

Security: Security auditing, Access control and permissions, Vulnerability remediation, Data protection (LGPD), OSINT

LANGUAGES

Portuguese: Native

English: Intermediate