Roger Koch Papke

Senior Systems Analyst · Software and Data Engineer

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PROFILE

Fifteen years building and sustaining software that can't go down, at the same higher-education institution, from junior programmer to senior systems analyst II. Today I work on three fronts: mission-critical Oracle PL/SQL and Java backends, a production omnichannel CRM (Node.js) and a Microsoft Fabric data platform, always operating what I build.

15 Years of experience · **229** Signed PL/SQL objects · **8** Distinct systems (schemas) · **9+** Platforms integrated · **1,622** Forms screens migrated · **16** Web portal pages

TECHNICAL SKILLS

Data & Cloud: Microsoft Fabric, PySpark, Apache Spark, Power BI, Microsoft Azure, Data Lakehouse, ETL / Data Pipelines, KQL / Real-Time Analytics, DataOps, Business Intelligence

Marketing analytics: Marketing Analytics, Google Ads & Meta Ads

Backend: Java (Spring MVC), C# / .NET, Oracle PL/SQL, Node.js, MongoDB, PostgreSQL, TypeScript, Python, SQL

Web: React / Next.js, REST & SOAP APIs, Socket.IO / WebRTC

Infra & AI: Docker, Linux, Git, OpenTelemetry, AI Agents / LLMs

PROFESSIONAL EXPERIENCE

Senior Systems Analyst II

Higher-education institution, Brazil · Technical lead of the systems team

12/2021 - Present

- Lead development and maintenance of the corporate systems, evolving mission-critical Oracle PL/SQL applications (procedures, triggers, packages) and the student self-service portal in Java with Spring MVC on WebLogic, 195 files and 52.7k lines carrying my signature in version control, across both generations of the portal.
- Led the construction of the digital diploma registry (2022), replacing paper diplomas with a legally valid document, a regulatory requirement, writing the package that orchestrates the whole cycle; 35,000+ diplomas issued so far.
- The institution's second ERP switch: I built the migration pipeline in pure PL/SQL, 25 staging tables, 16 million reconciled rows and a financial lock that prevents wrong charges during the cutover.
- Integrate the system with 9+ heterogeneous platforms (payroll, LDAP, document management, library, CRM, regulators, Google) via SOAP/REST web services, database links and an HTTP client inside the database itself (HTTPS certificate wallet, encrypted credentials, chunked JSON). In 2022 I made the fixes that got the Google/LDAP account integration working and built the candidate queue feeding the CRM.
- The database also serves REST, 108 endpoints across 18 modules (APEX RESTful Services served via WebLogic), with 57 million fully-audited calls; I evolve the academic-integration, CRM, payroll and payments (Pix) modules.
- Lead developer of the institution's omnichannel student-recruitment CRM (Node.js, Express, React, MongoDB), WhatsApp bot and voice calls, email campaigns, lead distribution and executive dashboards, integrated with the academic system (Oracle) and the ad platforms (Meta and Google).
- Building the institution's administrative-dashboards platform in .NET 10 and React 19 (C#, EF Core, PostgreSQL, Google SSO), a daily snapshot creating the historical source of enrollments and finance the ERP doesn't offer.
- Designed and operate a production data platform on Microsoft Fabric (since 2023), a medallion-architecture lakehouse, incremental PySpark ingestion from multiple databases, real-time analytics (Eventhouse/KQL) and Power BI dashboards.
- Built end-to-end marketing analytics, from ad click (Meta and Google Ads) to conversion, computing CPC, CAC and ROAS, integrated with WhatsApp via API.
- Set up Git versioning and deployment pipelines (DataOps) and coordinate the systems team.

Senior Systems Analyst I

Higher-education institution, Brazil

12/2019 - 12/2021

- Maintained and enhanced corporate and web systems in Oracle PL/SQL and Java.
- Led the migration of the Oracle Forms/Reports platform from 10g to 11g, the legacy Forms estate now runs inside WebLogic, recompiling, revalidating and editing module by module: 1,622 forms and 1,052 reports, still in production today.
- On the self-service portal, which moved from the OC4J container to WebLogic (and from servlet 2.4 to 2.5, on a Java 6 runtime), I did not lead the start of the migration: I came in once the structure existed, validated it and made sure everything worked again, later rewriting my own modules in the portal's new generation.
- Between March 18 and 22, 2020, with in-person operations closed by the pandemic, I shipped the online entrance-exam routine to production by reusing the distance-learning exam engine, admissions never stopped. The same year, the emergency adjustments to the electronic gradebook.

Systems Analyst

Higher-education institution, Brazil
12/2015 - 12/2019

- 2016: distance-learning exam grading froze the student's screen. I turned the flow into an async queue processed by a job, a design still running in production in 2026, with 8.2 million exams in the table.
- Official-documents chain (2016): issuance with a one-per-day lock per student and type, a record of the parameters used, and automatic purge of expired files, 2 million+ issuances since 2015, peaking at 337k in 2018.
- From 2016 on, the working schema that hosts the ERP migration and reconciliation structures (85 tables, 35 functions), reused through the most recent switch.
- Real-money rules: a payment-slip reprint that refuses to print bank-rejected invoices and the enrollment-kit slip (2017); debt renegotiation and negotiable-debt rules (2019).
- Student web re-enrollment (2017–2018), an email-dispatch job (2017), access auditing (2016), gradebook open/close web services and the integration with the student-recruitment platform (2019).

Mid-Level Programmer

Higher-education institution, Brazil
12/2013 - 11/2015

- Unified candidate admission (2014): a single routine to admit an approved candidate, with reprocessing and the enrollment-kit payment slip.
- Government scholarships: eligibility rules for the national programs, who enters which program (2014–2015), and the new scholarship flow driven by required documentation (2014).
- Heavy evolution of the system's largest screen, grade and attendance entry, 16k+ lines, including automatic student approval (2013→2017), and of the distance-learning group-enrollment engine.
- Start of the conditional equivalence and prerequisite rules between courses (2015), evolved over the following years.

Junior Software Developer

Higher-education institution, Brazil
12/2011 - 12/2013

- Joined in December 2011 straight into the unforgiving modules: assessment and the electronic gradebook, regulatory (census and Ministry of Education), student portal and enrollment, in 2012 alone, dozens of signed changes to the self-service portal, the enrollment rules and the gradebook.
- First real-money rules (2012): the entrance-exam payment slip, revenue sharing between units, and automatic enrollment confirmation for scholarship students with 75%+ completion.
- Integration with the HR ERP: the routine sending faculty teaching hours to payroll, with leave rules and grouping by contract (2012, maintained for years).
- 2013: restructured the enrollment map, the executive report leadership reads every day, creating the count structure by admission type; generation dropped from hours to minutes.

SELECTED PERSONAL PROJECTS

- **papke-page**. This very site, a Next.js portfolio, bilingual, with an AI agent grounded in an anonymized base of 49 verified facts, 42 tests, a strict CSP and a custom domain. Built in public, phase by phase, since June 2026.
- **Dra. Débora Mausolff, Site & SEO**. Website for Dr. Débora Mausolff (Clínica Mithie, Canoas, Brazil), a local-SEO engine in React: 113 URLs, 86 model-generated city × service pages, 18 structured-data types, a blog and WhatsApp booking that knows which city she attends in. Prerendered and deployed on Azure.

EDUCATION

MBA in Technology: AI, Data Science and Big Data

Postgraduate (MBA)
In progress

MBA in Process and Quality Management

Postgraduate (MBA)
12/2024 · Completed

MBA in Digital Marketing Strategy

Postgraduate (MBA)
12/2024 · Completed

Oracle APEX: web and mobile applications

Professional course · TargetTrust
12/2020 · Completed

B.Sc. in Computer Science

Bachelor's degree
12/2013 · Completed

LANGUAGES

Portuguese: native
English: professional working proficiency (technical reading, writing and documentation)