

MARKO PAUNOVIC

Staff Software Engineer

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SUMMARY

Nearly 20 years of experience architecting distributed backend systems, leading engineering teams, and delivering production software at scale. Founded two startups with ownership of product strategy, architecture, engineering execution, and market launch. Extensive experience across Python, AWS, PostgreSQL, AI/LLM applications, system design, and building products from concept to production.

EXPERIENCE

Judi Health — Staff Software Engineer

Feb 2020 — Present

- Cut CI/CD times significantly with an inverse product dependency map so pipelines build and test only changed products, and integrated GitHub, GoCD, and Harness pipelines across the platform
- Led the finance team and shipped the invoicing engine that has processed more than 500 million claims: client-specific invoice templates on weekly, bi-weekly, and monthly cadences, 20+ pluggable ancillary fee processors (ACH, check processing, PMPM, per-claim, minimum guarantee), and a serverless report factory fanning out XLSX/CSV/PDF/ZIP bundles delivered over email, SFTP, and other protocols
- Maintained and evolved the EDI X12 835 remittance engine that pays pharmacies: per-receiver claim grouping over effective-dated NCPDP pharmacy and payment-center hierarchies, remittance generation, and Medicare plus 10 state prompt-pay schedules
- Built the platform datawarehouse synchronization engine from PostgreSQL to Redshift and Snowflake: table-trigger change capture, every-minute prioritized batch processing, idempotent delete-and-COPY warehouse loads, three-way row-count reconciliation with self-healing full resyncs, and backlog-driven Snowflake warehouse autoscaling, replicating hundreds of tables across the company's service databases
- Built the company-wide e2e Playwright regression platform as a custom pytest plugin: automatic cross-database test-data teardown that keeps live QA databases clean across runs, full parallel support, automatic screenshot/video/trace capture on failure, Allure reports with full history, self-published S3 dashboards, and GitHub commit statuses - wired into GitHub, Harness, and GoCD pipelines, adopted by every product team's regression suite, currently 1,500+ tests across 25 services
- Led and built the eligibility platform for union health funds: a configurable rules engine that determines each member's monthly medical eligibility from employer work reports (hours-worked thresholds, termination, dependent aging out, disability, military service, opt-out), with an expression-based rule DSL, cardholder-to-dependent propagation, hours-file ingestion, and scheduled operational and partner reports
- Leading platform integration and evaluation for the company's AI initiative: built the shared integration layer that mounts natural-language database-query agents into product APIs, extended the Judi assistant with database retrieval and data-source connectors, and built the regression and evaluation harness with LLM-as-judge suites covering chat and voice - currently building the Judi chatbot

AirTrip — Co-Founder

Dec 2018 — Feb 2020

- Led all technical execution, owning product architecture, backend development, cloud infrastructure, mobile engineering, and technical strategy from inception through launch.
- Led development of native iOS and Android applications by managing two mobile engineers, while building scalable backend infrastructure in parallel, launching the MVP within 8 months and supporting approximately 5,000 active users during initial growth.
- Designed and implemented geospatial matching, messaging, onboarding, and traveler discovery systems that powered user engagement.

EXOS — Senior Software Engineer

Apr 2019 — Feb 2020

- Contributed to backend services for a cloud-based fitness platform using Python, Django, Redis, Celery, MySQL, and AWS.

Oct 2018 — Apr 2019

Universal Music Group — Senior Software Engineer

- Built backend microservices and ETL pipelines that transformed large volumes of unstructured web data into structured datasets powering internal analytics and business intelligence systems.

ChipUP Poker — Technical Founder

May 2014 — Aug 2018

- Led all technical aspects of the company, defining product architecture, engineering strategy, infrastructure, and software delivery.
- Designed and implemented the Windows desktop poker client in Delphi/C++ using DirectX/OpenGL together with a high-performance networking layer enabling real-time multiplayer Texas Hold'em and Omaha gameplay.
- Designed the client-server architecture and led backend development by mentoring and managing a Node.js engineer responsible for server implementation.

Toptal — Freelance Contracting

Aug 2012 — Oct 2018

- Delivered software engineering consulting across multiple industries including trading, desktop automation, web platforms, data processing, monitoring systems, browser automation, and cloud services, taking ownership of architecture, backend development, and production deployments.

Darar Entertainment Limited — Software Engineer

Jun 2011 — Aug 2012

- Created a desktop multiplayer networking platform for Warcraft III, enabling players to discover, connect, and play together over the Internet, reaching ~10,000 daily active users at peak.
- Designed a high-performance packet analysis engine using WinPcap to extract live game state directly from UDP traffic.

SKILLS

Languages: Python · Rust · C++ · C# · Delphi

Frameworks & Libraries: Flask · Django · LangGraph · LangChain

Databases & Data: PostgreSQL · MySQL · SQLite · Redis · Redshift · Snowflake · ETL

Cloud & Infrastructure: AWS · Terraform

Other: AI/LLM

EDUCATION

Faculty of Computing — Bachelor's Degree, Computer Science

Oct 2008 — Oct 2012

LANGUAGES

Serbian (native) **English** (fluent)