

ROBERT MICHALAK

Staff Engineer & Founder | Architecture | Technical Leadership

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EXPERIENCE

Staff Software Engineer

09/2022 - Present

Vendr

Remote

Senior engineer operating across platform and product — initially focused on developer experience, infrastructure, and backend foundations, then taking on product feature development as organisational needs evolved. Contributed to the full stack: from designing multi-tenant SaaS architecture and serverless backends on AWS, to delivering product features with AI integrations, while serving as the most senior technical voice on the team.

- Contributed to product feature design and implementation incorporating AI tools, bridging platform expertise with product development.
- Architected a backend platform from scratch using Prisma ORM, React Router, and AWS serverless (Lambda, RDS Aurora, API Gateway), including PostgreSQL schema design for a multi-tenant SaaS application — with infrastructure-as-code via CDK and SST/Pulumi and comprehensive observability from the start.
- Orchestrated complex database migrations and schema evolution for production systems, ensuring zero-downtime deployments and data integrity.
- Performed code reviews and delivered technical mentorship as most senior team member, elevating code quality standards and fostering knowledge sharing.
- Reduced deployment time by 50% and enhanced reliability by migrating from CircleCI to GitHub Actions with a redesigned pipeline involving the engineering team.
- Achieved 70% faster build times by spearheading Turborepo integration in an enterprise monorepo.

Founder & Full-Stack Engineer

10/2025 - Present

nestd.ai

Location

AI property platform for real estate: photo-to-description generation, room analysis, and semantic search.

- Designed and built the full product solo end-to-end: product concept, UX, backend, frontend, and infrastructure.
- Integrated vision AI to perform per-room photo analysis — identifying rooms, extracting features, classifying style, and assessing condition — replacing manual data entry forms.
- Built location intelligence pipeline that enriches descriptions with neighbourhood context (amenities, transit, local character) from a property address.
- Implemented multi-audience, multi-style generation allowing output tuned by target audience, tone, length, and language.
- Built an AI search agent using tool-calling and vector embeddings for similarity-based semantic search across the property database, enabling natural language queries beyond keyword filtering.
- Shipped a live SaaS product with free trial, dashboard, and enterprise-facing landing page — handling the full product lifecycle independently.

Architect/Team Leader

12/2020 - 08/2022

Trilogy

Remote

Led 8–10 engineers across two remote teams crafting a cloud-native CRM on AWS. Managed architecture, collaborated on roadmap, and resolved distributed challenges with TypeScript, Node.js, and DynamoDB.

- Managed backend team (5–7 engineers) and UI platform team (2–3 engineers) across multiple time zones, fostering collaboration and ensuring delivery of high-quality features.
- Architected serverless CRM solution leveraging AWS services including Lambda, AppSync (GraphQL), DynamoDB, Step Functions, and S3 for scalable, event-driven workflows.
- Engineered advanced DynamoDB Single Table Design patterns, collaborating directly with industry experts to optimize data access patterns and query performance for multi-tenant CRM requirements.
- Led technical decision-making for distributed system architecture, API design (GraphQL schemas), and integration patterns across microservices.
- Conducted systematic deep-dive investigations using root cause analysis (5 Whys) and technical troubleshooting to resolve production issues, strengthening system reliability and team problem-solving capabilities.
- Partnered closely with product stakeholders to translate business requirements into technical specifications, breaking down complex features into developer-ready tasks and managing sprint planning.

SUMMARY

Experienced Engineering Leader and Staff Engineer with two decades in software engineering, specializing in cloud infrastructure, serverless architecture, and database optimization. Demonstrated ability to lead and scale high-impact teams, mentor engineers, and architect robust multi-tenant SaaS platforms. Founder of an AI-powered SaaS startup, adept at translating product vision into scalable technical solutions. Skilled in AWS ecosystems, PostgreSQL, DynamoDB, and modern full-stack TypeScript development, delivering measurable improvements in reliability, speed, and engineering standards.

SKILLS

General

Microservices, APIs (REST, GraphQL), Serverless, SOLID, Databases (SQL/NoSQL)

AI & LLMs

OpenAI API, vector embeddings, semantic search, agentic patterns, tool-calling, prompt engineering, MCP servers, AI-assisted Development (Cursor, Claude Code, OpenCode)

AWS

Lambda, API Gateway, AppSync, EC2, VPC, RDS, SQS, CloudFront, CloudFormation, DynamoDB, S3, IAM (CDK, SST, Pulumi)

JavaScript/TypeScript - Node.js

npm, pnpm, Bun, Turborepo, Knex, Prisma, Zod, Hono, Jest, Vitest, Remix/React Router v7, React

Java

Spring, JPA, Hibernate, JBoss, Tomcat, Maven, Gradle

Databases

PostgreSQL, MySQL, Oracle, DynamoDB (+ Single Table Design), Apache Solr, Elasticsearch/OpenSearch

Tooling

CircleCI, GitLab, GitHub, GitHub Actions, Jenkins, Grafana, Prometheus, Honeycomb, OpenTelemetry, Sentry, Rootly, Datadog

EXPERIENCE

Technical Architect

07/2014 - 12/2020

Bravura Solutions

Warsaw, Poland

Technical architect, Warsaw office lead; guiding 20+ engineers on Sonata wealth platform, active in APAC & EMEA.

- Led technical direction and architectural decisions for the Warsaw engineering team, ensuring alignment with global platform standards and best practices.
- Mentored and developed more than 20 engineers across multiple teams, providing guidance on database design, system architecture, and Java ecosystem best practices.
- Architected critical database schemas and data access patterns for wealth management features, optimizing Oracle database performance for high-volume financial transactions.
- Coordinated with distributed architecture team to establish technical standards, review designs, and resolve complex integration challenges across international development centers.
- Maintained hands-on development responsibilities for high-impact features using Java and relational databases (Oracle).

Technical Project Leader / Deputy Department Manager

09/2008 - 06/2014

Research and Academic Computer Network (NASK)

Warsaw, Poland

Led engineering team and managed complete product lifecycle for Academica, a national-scale digital preservation platform serving the National Library of Poland. Progressed from managing core product team (5-6 engineers) to Deputy Department Manager overseeing 20-30 staff members.

- Managed cross-functional product team including 5-6 software engineers, 2 QA engineers, and 1 designer, conducting regular 1-on-1s, performance reviews, and career development planning.
- Hired and onboarded multiple team members, establishing team culture focused on technical excellence and collaborative problem-solving.
- Architected and led development of Academica from initial design through successful production launch, creating a comprehensive web platform for public viewing, researcher access, and digitization workflows of National Library collections.
- Created a scalable digital preservation system built on long-term storage strategies (hard disks, tape drives, remote locations) to ensure data integrity and disaster recovery for books, documents, and multimedia resources spanning decades.
- Built platform using Java, Spring, MyBatis, MySQL and Solr, designing database schemas optimized for complex cataloging requirements, full-text search, and high-volume document retrieval.
- Partnered directly with National Library stakeholders to translate preservation requirements and regulatory constraints into technical specifications and feature roadmaps.
- Led sprint planning and project management activities, prioritizing work based on stakeholder needs and coordinating releases across development, QA, and operations teams.

Team Leader

08/2005 - 07/2008

Sentivision Sp. z o.o

Warsaw, Poland

Progressed from software developer to team leader for a 4-person development team building set-top box IPTV platform applications. Led development using C/C++ and contributed to internal UI framework architecture.

EDUCATION

M.S. in Computer Science

University of Warsaw

2000 - 2006

Warsaw, Poland

M.S. in Mathematics

University of Warsaw

1999 - 2005

Warsaw, Poland

LANGUAGES

Polish	Native	●●●●●
English	Proficient	●●●●●
Spanish	Beginner	●●●●●

INTERESTS

- 🤿

Scuba diving
- 🧗

Hiking
- 🏠

Home automation

Author and maintainer of one of the Openhab bindings (for interacting with Digiplex alarm systems)
- 🎮

Computer games