

MICHAEL KIMSAL

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PRINCIPAL SOFTWARE ENGINEER / ARCHITECT

Lead architecture, modernization, and recovery efforts for organizations operating legacy or high-risk systems.

Specializing in constrained environments - limited access, legacy platforms, compliance-heavy domains – I deliver incremental, in-place upgrades without disrupting operations.

Operate as a senior technical lead across organizations, bridging business constraints (budget, compliance, timelines) with pragmatic system design and execution.

PROFESSIONAL EXPERIENCE

IT Consultant / Principal Engineer

Lead architecture, modernization, and recovery efforts for organizations operating legacy or high-risk systems. Specializing in constrained environments (limited access, legacy platforms, compliance-heavy domains), delivering incremental in-place upgrades without disrupting operations. Act as senior technical lead bridging business constraints (budget, compliance, timelines) with pragmatic system design and execution.

Selected Engagements (2000–present)

Technology Transfer (2023-present)

Designed and built web platforms for technology transfer operations, supporting university tech transfer leaders and external licensees. Implemented complex workflow and compliance reporting systems for tracking disclosures, licensing milestones, and contractual obligations.

Clean-room Agricultural Workforce Visa Platform (2022-present)

Rebuilt system behavior without source access due to legal constraints. Delivered modern replacement supporting 300+ farms (25–200 workers each), maintaining compatibility with existing workflows and data structures.

NCVPS Student Registration Platform (2010-present)

Led phased modernization of statewide enrollment system (50,000–60,000 students annually). Executed migration from legacy system to modern PHP architecture while preserving production continuity and enabling parallel operation during transition.

PHP Modernization Engagements (Enterprise Consulting, 2023–2024)

Contributed to multiple client projects upgrading legacy PHP applications (5/7 up to 8). Addressed compatibility issues, reduced upgrade risk, and improved maintainability without full rewrites.

Agricultural Processing Co-op – Architecture Review (2025)

Independent evaluation of system design and delivery risks for platform serving ~200 farms. Delivered actionable recommendations on architecture and testing strategy, selectively adopted.

Custom ERP Platform (2017-2020)

Converted legacy desktop invoice/billing/inventory system into a web-based ERP supporting inventory management, service scheduling, mobile data collection and retail/POS.

New Teacher Center – Survey & Reporting Platform (2012-2017)

Survey creation, management, and reporting system supporting multi-state teacher working conditions surveys (>300,000 teachers annually).

Custom Toy Manufacturer – Ecommerce / Intranet System (2000-2004)

Dealer-facing ecommerce and internal intranet platform supporting ~\$500M annual sales. Order processing, fulfillment integration, inventory synchronization, and accounting system integration.

AI

AI / LLM Systems (Product Integration)

OpenAI API, Anthropic API, tool-calling / function calling patterns, prompt orchestration, embedding-based workflows, LLM-assisted backend services.

AI-assisted Development Workflows

Claude Code, ChatGPT, GitHub Copilot, Cursor, JetBrains Junie; used for refactoring, test generation, legacy system migration, and rapid prototyping.

TECHNOLOGIES

Backend: PHP (5–8), Laravel, Java (Spring/Grails), Node

Data: MySQL, PostgreSQL, SQLite, ElasticSearch

Frontend: Vue (2/3), React, JavaScript, Livewire, Inertia, Filament

Infrastructure: AWS – Route 53, SQS, EC2, Azure, GCP, Docker, Linux, Redis, Twilio, Signalwire

EDUCATION

Bachelor of Arts, Philosophy
Oakland University
