SHADY SHARAF

Principal Engineer | Tech Lead | AI Engineering

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📚 BBA, Cairo University | Certified Agile Scrum Master

Principal Engineer with 20+ years of experience architecting distributed systems at scale, within the publishing, media, banking, and education industries. Open source contributor, Linux Foundation project committee member, tech speaker, student mentor, and local meetup organizer. Deep expertise in enterprise high-traffic scalable distributed systems, cloud-native architectures, large-scale migrations, supply chain security, performance optimization, and Agentic AI integrations.

Proven track record of leading cross-functional high-performing teams, implementing agile practices, growth-oriented initiatives, and experimentation cultures. Goal-oriented, data-driven, and business-minded with a proven track record of delivering impactful transformations and innovations.

TECHNICAL SKILLS

- **Agentic AI Integrations:** LLM integrations (OpenAI, Claude, Gemini), custom MCPs (Model Context Protocol), RAG patterns, multi-provider LLM orchestration, AI observability and evaluation.
- **AI Development:** Langchain, CrewAI, AutoGen, AI SDKs
- **Languages:** JavaScript/TypeScript, PHP, Python
- **API Design:** Platform-agnostic SDKs, Service discovery patterns, API Protocols and design
- **Frameworks & Platforms:** Content management systems, Laravel, Symfony, Next.js, Nuxt, Node, React, Vue
- **Cloud & Distributed Systems:** AWS Cloud (EC2, Lambda, S3, SQS, etc), Container orchestration, Kubernetes, IaC (Terraform), CI/CD, Observability (Datadog, New Relic), Event-driven architecture, Queue-based messaging (SQS, Kafka)
- **Data Infrastructure:** PostgreSQL, MySQL, Elasticsearch / OpenSearch, Redis, Algolia, Vector databases
- **Testing & Quality:** Automated testing frameworks (Playwright, Jest, PHPUnit, Codeception), LLM testing and evaluation frameworks (LangSmith, OpenAI evals, etc)
- **Specialties:** Distributed systems, System design, Cloud infrastructure, Federated systems, Performance optimization, Supply chain security, Agentic AI integrations

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PROFESSIONAL EXPERIENCE

Open Source and Volunteer Contributions

Linux Foundation - FAIR Project

- **Architected** a Federated and Independent Repository (FAIR) protocol to secure supply chains for content management systems, neutralizing single points of failure for **40%** of the web.
- **Engineered** a decentralized package distribution system for regulated industries, enabling **100%** audit integrity and host independence.
- **Established** an open governance model with Technical Steering Committee, working groups, and consensus-driven development reflecting community needs, building resilient public digital infrastructure.

Core AI Team - AI Building Blocks Initiative

- **Helped** build AI foundational building blocks in WordPress Core, multi-provider abstractions, Abilities API (central registry making platform capabilities discoverable to AI agents), MCP Adapter, and Core AI APIs.

University Credits Program - Volunteer Mentor

- **Mentors** university students in open-source contribution towards university credits, guiding students from diverse fields through structured onboarding, hands-on contribution projects, and integration into the global open source community.
- **Supports** students in defining and executing personalized contribution projects aligned with their skills and interests, creating educational content, and developing training materials.

Stream Plugin - Enterprise Audit Logging Platform

- **Architected** and built a leading enterprise audit logging plugin, (2M+ active installations), enabling banks, universities, and enterprises to meet compliance requirements and reduce adoption barriers in regulated industries.
- **Designed** high-performance cloud-native distributed platform, using queue-based asynchronous messaging and open search indexes, for zero-impact and scalable audit logging.
- **Pivoted** from an open-source plugin to a SaaS business with multi-region cloud offering, and regional data protection compliance (EU, US, Asia).

PHP Coding Standards - Industry Standard & Automated Code Quality

- **Maintained** coding standards package as sole maintainer during critical growth phase, achieving 40M+ installations, establishing industry standard for code quality and consistency.
- **Developed** the initial model for Tide, the official community-serving automated code quality tool, sponsored by Google.

Technical talks and workshops

- **Spoke** at LeadDev UK/Berlin, regional and local tech meetups and conferences, on topics such as performance optimization, debugging and profiling, testing automation, experimentation culture, team leadership, AI adoption, Development metrics, and Agentic coding. Titles included:
    - "AI as the great equalizer, AI for accessibility and diversity"
    - "Debugging and Profiling, beyond the basics"
    - "Level up your AI coding game, Prompt engineering"
    - "The Augmented Developer, AI for developers"
    - "Play it right, Playwright testing automation basics"
    - "The Augmented Team, AI disrupting software development teams, beyond code"
    - "Business transformation using AI agents and workflows"
- **Engineered** Prototypes using AI for different use cases:
    - AI council for multi-agent collaboration and decision-making.
    - Enhancing diversity and inclusion using AI, detecting and suggesting against different forms of bias in content. Demonstrated multiple AI SDKs and libraries for the same use case to show potential and capabilities.
    - Accessibility reviews using AI agents.
    - Format flexibility, converting content between different formats, video, audio, text, etc.

Clave Consulting, UAE — Co-founder, Lead Engineer

October 2024 - Present | Dubai, UAE (Remote)

Co-founded Clave Consulting, a tech consulting firm specializing in Technology/AI Digital Transformation, helping companies across EMEA region realise and harness the power of AI to improve efficiency and quality of their processes and offerings, through training and internal/external AI implementations.

Spun up products include:

- **Crawlyst.com**, an AI Search Visibility Tracking and Optimization platform, helping brands realize, monitor, and optimize their visibility across different AI platforms (Gemini, OpenAI, Claude, etc), and benchmark their identity and reputation against competition.
- **Cappucchino**, a smart AI-assisted standup replacement platform / Slack bot that prefills your standup reports. It connects to data sources (JIRA, GitHub, etc), synthesizes daily reports and executive rollups across teams and projects, prefilling engineering standups and only asking questions when needed, updating project management systems where needed, saving hours of manual work, redundant questions, and providing better visibility to executive layers.

XWP, Australia — Principal Engineer

October 2024 - Present | Sydney, AU (Remote)

Key Clients: Vox Media (Vox, TheVerge, Eater.com, SBNation, etc) / Ziff Davis (CNET, ZDNET, PC Magazine, LifeHacker, AskMen, etc)

- **Architected** a multi-brand content management platform, enabling 100+ brands over 4+ different networks and 300+ individual sites to share common infrastructure and content while maintaining brand-specific customization capabilities.
- **Migrated** all brands to the new platform, including 50m+ content pages across all networks, and 100+ million monthly users, with zero downtime via a blue/green deployment and ongoing migration streams.
- **Built** a modular, reusable, AI-augmented, migration framework, hooks into different sources like REST APIs, GraphQL APIs, direct database access, and legacy code bases, using MCP (Model Context Protocol) adapters, extracting data, logic, and insights, and tracing code and database relationships, to guide the migration process, cutting down the traditional migration timelines by 70%, while significantly increasing confidence and removing gaps between legacy and new platform.
- **Developed** AI agents and integrations across multiple disciplines: Project intelligence agent synthesizing weekly project progress via activity from GitHub, JIRA, and Google documents. Time tracking agent aggregating engineering signals into daily standups via a custom-built MCP server. Knowledge base agent parsing call logs and project documentation to answer questions about requirements, progress, and implementations.
- **Championed** AI Adoption in engineering teams, published a reusable AI agent orchestration framework containing agent instructions, commands,rules, and MCPs, as a drop-in configuration across different engineering teams, to improve collaboration and knowledge sharing, enhance quality and consistency of AI coding agents.
- **Experimented** with AI coding agents observability and evaluation, implementing telemetry capture, trace analysis, and performance profiling, identifying agent behavior patterns, latency bottlenecks, and prompt failure modes through production data analysis, enabling data-driven prompt optimization and continuous agent improvement based on real-world usage metrics.

The Times, UK — Principal Engineer

April 2023 - October 2024 | London, UK (Remote)

- **Led** technical modernization for TheTimes.com editorial platform, serving 30M monthly users and 230 articles/day, transforming 30+ interconnected legacy services and multiple publishing pipelines with accumulated technical debt into a unified content pipeline, and establishing engineering confidence through automated testing and efficient CI/CD pipelines, reducing time-to-publish by 50% and enabling seamless integration with mobile apps and content syndication partners.
- **Drove** testing coverage from zero to 80% coverage with comprehensive functional and end-to-end testing strategies, reducing release cycle time by 70%, production rollbacks by 80%, manual testing burden by 95%, and significantly improving deployment confidence.

- **Established** agile ways of working, engineering practices, and continuous improvement culture, through proactive feedback loops and growth-oriented initiatives, improving developer experience and productivity.

Altis DXP (Human Made), UK — Principal Product Engineer

July 2021 - April 2023 | London, UK (Remote)

- **Architected** and drove product roadmap for enterprise-grade Digital experience platform (DXP) serving Fortune 500 clients, banks, and universities, with scalable cloud-native infrastructure, distilling collective engineering experience into reusable turnkey solutions including AI-powered media processing and content management, security certifications for finance/publishing sectors, and comprehensive developer tooling enabling rapid enterprise adoption and iteration, eg: A/B testing framework, zero-config automated testing foundation, enhanced performance indexing and search relevancy, etc.
- **Pioneered** capability maturity programs establishing experimentation culture, implementing quantitative/qualitative development metrics, and contributed to building the company's progression framework, in line with company values, driving continuous improvement and team growth at scale.

Human Made, UK — Principal Engineer

May 2016 - April 2023 | London, UK (Remote)

Key Clients: Google, Facebook, Siemens, Sony PlayStation, News Corp, TechCrunch

Siemens Ingenuity - AI-Powered Publishing & Events Platform

- **Architected** and led migration of Siemens' global content platform from a proprietary system to open-source content management system, enabling 3000+ non-tech-savvy scientists and employees worldwide to publish professional content, up to 200 articles per month, achieving seamless adoption of custom editorial tooling, 500% increase in content production, and significant cost savings in technical development that funded rapid feature development and iteration.
- **Pioneered** AI-augmented editorial platform (pre-ChatGPT era) integrating proprietary Siemens AI services for real-time assistance with style and readability analysis, language and grammar checks, and content/SEO optimization, enabling non-technical domain experts to produce publication-ready content through AI-guided workflows while maintaining brand compliance and multilingual support.
- **Orchestrated** cross-functional delivery across 4 distributed teams (engineering, client stakeholders, external UX agency, AI vendor), employing transparent agile practices to ship fast and iterate frequently.
- **Rapidly pivoted** platform architecture during COVID-19 pandemic, designing and delivering full-scale

virtual events system in 3 months to replace Siemens' annual SCC conference, integrating live streaming, real-time voting, virtual reality experiences, and scheduling systems.

News UK - Multi-Brand Headless Architecture Transformation

- **Led** hybrid external team architecting headless CMS transformation for 10+ News UK brands, migrating from legacy print-focused monolithic systems to unified content pipeline, consolidating codebases and pooling development resources across brands to significantly improve developer velocity, editorial consistency, and technical innovation while maintaining brand-specific customization capabilities.

X-Team, Australia — Senior Software Engineer

October 2013 - January 2016 | Melbourne, AU (Remote)

Key Clients: USA Today, Penske Media, Rogers Media, Global News, News Corp Australia, Automattic, Google, and more!

- **Architected** multi-channel content hub platforms, delivering content to web properties, mobile apps, and social platforms with centralized content management backend, supporting 1M+ daily users.
- **Led** large-scale migrations and automated visual regression testing for major publishers across millions of pages, reducing QA cycles by 80%, and migration times by 50%.

Earlier Experience (2008-2016)

Consolidated for space - available upon request

- **Riot Games** (Senior Software Engineer): Built MEAN stack real-time analytics and internal communication systems for League of Legends infrastructure
- **Link Dev** (Open-source Department Lead): Founded and led WordPress/PHP division, trained engineers, delivered enterprise international platforms
- **Wyoos** (Technical Director, Partner): Built and led engineering team for SaaS eCommerce startup with corporate gamification systems
- **EPIC Systems** (Technical Lead): Developed RFID middleware for supply chain, access control, and health monitoring applications
- **IT Owners** (Technical Lead, Partner): Developed LMS and SMS PaaS system; received Letter of Appreciation from Qatar Ministry of Education

AWARDS & RECOGNITIONS

Innovation award - LeadDev AI Hackathon | LeadDev Berlin, November 2024

- Won innovative award with "AI Council" - a multi-agent AI collaboration platform demonstrating real-time deliberation between Claude, Gemini, and GPT to reach consensus on complex problems
- Recognized for innovative approach to multi-agent systems and AI collaboration patterns

Innovation award - Best AI Use | WordCamp US 2019, by Matt Mullenweg, WordPress co-founder

- Honored for "most innovative product using AI" for pioneering AI-augmented editorial workflow in Siemens Ingenuity platform (pre-ChatGPT era, 2018-2019)
- First production-scale AI-augmented editorial workflow, enabled 2,000-3,000 scientists to produce publication-ready content through intelligent automation

Education Innovation Award | Ministry of Education, Qatar Government, 2008-2013

- Awarded innovation recognition for developing innovative LMS and SMS PaaS system
- Enhanced online education standards across Qatari institutions through WordPress-based platform