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AI-Powered Zero Downtime: Intelligent Approaches to Always-On Systems

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In an era where user expectations demand 24/7 availability, zero downtime is no longer optional — it's essential. This talk explores how AI and intelligent automation are transforming the way we design, monitor, and operate highly available systems. We'll cover traditional zero-downtime strategies like blue-green deployments, canary releases, and feature flagging — then take it a step further by introducing AI-driven enhancements. From predictive failure detection using machine learning models, to adaptive traffic routing during live deployments, to AI-based observability for root cause analysis — modern systems are becoming smarter, not just more stable. You'll learn how AI can proactively identify risks, optimize resource utilization, and even automate rollback or scaling decisions in real-time. By blending tried-and-tested DevOps practices with intelligent decision-making, organizations can achieve a new level of resilience, performance, and user trust. This session is ideal for engineers, architects, and tech leaders who want to future-proof their infrastructure and move beyond manual, reactive operations. Join us to discover how AI is accelerating the path to true zero downtime — turning it from an operational challenge into a strategic advantage.