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AI-Driven Dynamic Resource Allocation in Cloud Computing: Predictive Models and Real-Time Optimization

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Abstract
This presentation will focus on advanced AI techniques for dynamic resource allocation in cloud computing environments. I will discuss the development of predictive models that leverage machine learning and optimization algorithms to anticipate workload demands and allocate resources efficiently in real time. The talk will cover architectural considerations, implementation challenges, and case studies illustrating how AI-driven resource management improves system performance, cost efficiency, and resilience against cyber threats. Attendees will gain insights into integrating these techniques into modern cloud infrastructures to support secure, scalable operations.