Integrating AI into Cloud Platforms: A Roadmap for Enterprises

Speaker: Bhashwanth Kadapagunta

Site Reliability Engineering 2025 Conference

April 17, 2025

Integrating AI into Cloud Platforms

- Transforming Business Operations & Driving Innovation
- AI + Cloud = Strategic imperative for modern enterprises
- Key benefits: Innovation, efficiency, competitive advantage
- This talk outlines a comprehensive roadmap for AI-cloud integration

Why AI and Cloud Integration Matters

- - Cloud enables scalable training and deployment of AI models
- - AI enhances cloud with automation, predictive analytics, real-time decisions
- - Business Benefits:
- - Challenges: Data governance, model management, talent gaps

Building the Right Architecture

- - Hybrid & Multi-cloud: Avoid vendor lock-in, optimize cost
- - Strategies:
 - Open standards (e.g., Kubernetes, ONNX)
 - Data fabric for consistent access & governance
- - Edge Computing: Real-time inference for latency-sensitive use cases
- - Serverless AI: Cost-effective, scalable (beware cold starts & GPU limits)
- - Aligning AI with Business Goals

Overcoming Operational Challenges

- - Data Governance:
 - Data lineage tracking
 - Automated cleaning/preprocessing
- - MLOps for Lifecycle Management:
 - Version control
 - CI/CD pipelines
 - Real-time model monitoring
- - Talent Strategy:
 - Upskilling
 - Internal AI academies
 - Academic partnerships

A Step-by-Step Roadmap for Enterprises

Phase 1: Foundation Building

• Phase 2: Pilot Deployment

• Phase 3: Scaling and Optimization

• Phase 4: Continuous Improvement

The Future of AI-Cloud Integration

- - AI-Driven Cloud Management: Smarter, cost-optimized resource use
- - Federated Learning: Privacy-preserving collaborative model training
- - Quantum Computing: Next-gen potential for complex AI problems
- - Key takeaway: Continuous evolution—stay agile, adopt early

Thank you