

Slide 8: Operations & DevOps - AI Operations & Monitoring

Objective: Define MLOps and operational skills needed to deploy, monitor, and maintain AI systems in production.

Layout Composition:

The slide is a flex-col with a header sized to its content, a main body that grows, and a footer sized to its content. The main body is a grid with three columns (1fr 1fr 1fr) and two rows (auto 1fr). Top row spans all columns for MLOps lifecycle, bottom row has three operational focus areas.

Content Breakdown:

- Block 1:
 - Block Type: Text
 - Placement: Header section
 - Component Schema: "Role Header"
 - Content:
 - Role_Title: "Operations & DevOps Teams"
 - Role_Icon: "Settings"
 - Subtitle: "MLOps, Monitoring & Production AI Management"
 - Persona_Badge: "Primary: AI Worker"
 - Creative Brief: Title text-6xl with green accent color (operations role). Icon inline with title. Persona badge as small chip/pill. White text.
- Block 2:
 - Block Type: Text
 - Placement: Top row, spanning all three columns
 - Component Schema: "MLOps Lifecycle Card"
 - Content:
 - Section_Title: "MLOps Lifecycle Management"
 - Icon: "RefreshCw"
 - Lifecycle_Stages: [
 - {
 - "Stage": "Model Deployment",
 - "Icon": "Upload",
 - "Activities": ["CI/CD for ML models", "Container orchestration (Kubernetes)", "Blue-green deployments", "Canary releases"]
 - {
 - "Stage": "Monitoring & Observability",
 - "Icon": "Activity",
 - "Activities": ["Model performance metrics", "Data drift detection", "Inference latency tracking", "Resource utilization monitoring"]
 - {
 - "Stage": "Model Maintenance",
 - "Icon": "Tool",
 - "Activities": ["Automated retraining triggers", "Version rollback procedures", "Model retirement workflows", "Performance degradation alerts"]

```
}
]
```

- Creative Brief: Wide card with slate-800 background spanning full width. Three lifecycle stages arranged horizontally as connected cards or flow. Each stage has icon (green), bold stage name (text-xl), and activities list (text-lg). Use arrows or connecting lines between stages to show flow. Modern, technical aesthetic.

- Block 3:

- Block Type: Text

- Placement: Bottom-left column

- Component Schema: "Infrastructure Skills Card"

- Content:

Section_Title: "Infrastructure & Deployment"

Icon: "Server"

Skills: [

"Container orchestration for ML workloads",

"GPU/TPU resource management",

"Auto-scaling policies for inference endpoints",

"Infrastructure as Code (Terraform, CloudFormation)",

"Model serving platforms (TorchServe, TensorFlow Serving)",

"Service mesh for ML microservices"

]

- Creative Brief: Card with slate-700 background. Header with icon (green accent), text-xl. Skills as bullet list, text-base. Clean, technical presentation.

- Block 4:

- Block Type: Text

- Placement: Bottom-center column

- Component Schema: "Monitoring Skills Card"

- Content:

Section_Title: "Monitoring & Observability"

Icon: "Eye"

Skills: [

"Model performance dashboards (Grafana, CloudWatch)",

"Data quality monitoring",

"Prediction accuracy tracking",

"Latency and throughput optimization",

"Alert configuration for model degradation",

"Logging and tracing for ML pipelines"

]

- Creative Brief: Matching card style to Block 3. Green accent for header and icon. Same typography and layout structure.

- Block 5:

- Block Type: Text

- Placement: Bottom-right column

- Component Schema: "Reliability Skills Card"

- Content:
 - Section_Title: "Reliability & Incident Response"
 - Icon: "Shield"
 - Skills: [
 - "SLA/SLO definition for AI services",
 - "Incident response for model failures",
 - "Disaster recovery for ML systems",
 - "Model rollback procedures",
 - "Chaos engineering for ML systems",
 - "Post-incident analysis and learning"
- Creative Brief: Matching card style to Blocks 3 and 4. Green accent throughout. Maintain consistent spacing and typography.
- Block 6:
 - Block Type: Text
 - Placement: Footer
 - Component Schema: "Simple Footer"
 - Content:
 - Footer_Text: "Training estimate: 50-70 hours | Prerequisites: Strong DevOps fundamentals, cloud platform knowledge"
- Creative Brief: Centered, text-base, opacity-70.