**Questionnaire to Gauge MLOps Maturity Level**

**Stages of MLOps maturity**

**1. Ad-hoc:**

- Initial experimentation with ML models.

- Manual processes for model development and deployment.

**2. Repeatable:**

- Standardized processes and tools for model development.

- Some level of automation for model deployment.

**3. Defined:**

- Well-defined processes for the entire ML lifecycle.

- Automated CI/CD pipelines for model deployment.

**4. Managed:**

- Comprehensive monitoring and management of models in production.

- Proactive maintenance and updates.

**5. Optimized:**

- Continuous improvement through feedback loops.

- Advanced automation and scalability.

**1. Current State of AI/ML:**

- How would you describe your current stage of MLOps maturity?

- [ ] Ad-hoc

- [ ] Repeatable

- [ ] Defined

- [ ] Managed

- [ ] Optimized

- What are the primary challenges you face at your current stage of MLOps maturity?

- [ ] Lack of Standardized Processes

- [ ] Limited Automation

- [ ] Insufficient Monitoring

- [ ] Difficulty in Scaling

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

- What types of machine learning models are you currently using or planning to use?

- [ ] Supervised Learning (e.g., Regression, Classification, Forecasting)

- [ ] Unsupervised Learning (e.g., Clustering, Dimensionality Reduction)

- [ ] Reinforcement Learning

- [ ] Deep Learning

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

- How are these models developed and deployed today?

- [ ] No deployment yet

- [ ] Ad-hoc Development and Manual Deployment

- [ ] Semi-automated Pipeline

- [ ] Fully Automated Pipeline

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

- Where are the models deployed today/Where do you want the models to be deployed?

- [ ] AWS

- [ ] Azure

- [ ] GCP

- [ ] On prem

- [ ] Databricks(AWS/Azure)

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

**2. Data Management:**

- How do you manage and preprocess your data for training models?

- [ ] Manual Data Processing

- [ ] Scripts and Custom Tools

- [ ] Data Processing Frameworks (e.g., Apache Spark)

- [ ] Managed Data Platforms (e.g., Databricks)

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

- What tools or platforms are you using for data storage and processing?

- [ ] Relational Databases (e.g., MySQL, PostgreSQL)

- [ ] NoSQL Databases (e.g., MongoDB, Cassandra)

- [ ] Data Lakes (e.g., AWS S3, Azure Data Lake)

- [ ] Data Warehouses (e.g., Snowflake, Redshift)

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

**3. Model Development:**

- What frameworks and libraries are your data scientists using for model development?

- [ ] Scikit-Learn

- [ ] TensorFlow

- [ ] PyTorch

- [ ] Keras

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

- How do you currently develop machine learning models?

- [ ] Jupyter Notebooks

- [ ] IDEs (e.g., PyCharm, VS Code)

- [ ] Automated Tools (e.g., AutoML)

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

- How do you handle version control for models and data?

- [ ] No Version Control

- [ ] Basic Version Control (e.g., Git for Code)

- [ ] Advanced Version Control (e.g., DVC for Data and Models)

- [ ] Managed Services (e.g., MLflow, ModelDB)

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

- How do you manage and track your model experiments?

- [ ] Manual Tracking (e.g., Spreadsheets)

- [ ] Experiment Tracking Tools (e.g., MLflow, Weights & Biases)

- [ ] Custom Solutions

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

**4. Deployment and Integration:**

- What is your current process for deploying models into production?

- [ ] Manual Deployment

- [ ] Scripted Deployment

- [ ] CI/CD Pipelines

- [ ] Fully Managed Deployment Services (e.g., SageMaker, Azure ML)

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

- How do you integrate machine learning models with your existing systems?

- [ ] No Integration

- [ ] Basic Integration (e.g., Batch Processing)

- [ ] Real-time Integration (e.g., APIs)

- [ ] Event-driven Integration (e.g., Stream Processing)

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

**5. Monitoring and Maintenance:**

- How do you monitor application performance in production?

- [ ] No Monitoring

- [ ] Basic Monitoring (e.g., Logs, Metrics, manual checks)

- [ ] Advanced Monitoring (e.g., Alerts, Dashboards)

- [ ] Managed Monitoring Services (e.g., Prometheus, Grafana)

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

- What steps do you take to maintain and update models?

- [ ] Manual Updates

- [ ] Scheduled Updates

- [ ] Automated Retraining and Deployment

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

**6. Collaboration and Workflow:**

- How do data scientists and operations teams collaborate on model deployment and management?

- [ ] No Collaboration

- [ ] Ad-hoc Collaboration

- [ ] Regular Meetings and Coordination

- [ ] Integrated Tools for Collaboration (e.g., JIRA, Confluence)

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

- What tools do you use for project management and workflow automation?

- [ ] None

- [ ] Basic Tools (e.g., Spreadsheets, Emails)

- [ ] Project Management Software (e.g., Asana, Trello)

- [ ] Workflow Automation Tools (e.g., Airflow, Kubeflow)

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

**7. Scalability and Automation:**

- How scalable is your current AI/ML infrastructure?

- [ ] Not Scalable

- [ ] Limited Scalability

- [ ] Moderately Scalable

- [ ] Highly Scalable

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

- What level of automation do you have in your machine learning lifecycle (e.g., automated training, deployment, monitoring)?

- [ ] No Automation

- [ ] Partial Automation

- [ ] Significant Automation

- [ ] Full Automation

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

**8. Security and Compliance:**

- What security measures are in place for your AI/ML systems?

- [ ] None

- [ ] Basic Security Measures (e.g., Access Controls)

- [ ] Advanced Security Measures (e.g., Encryption, Auditing)

- [ ] Compliance with Industry Standards (e.g., GDPR, HIPAA)

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

**9. Challenges and Pain Points:**

- What are the biggest challenges you face in your AI/ML initiatives?

- [ ] Data Quality Issues

- [ ] Model Performance and Accuracy

- [ ] Deployment and Integration

- [ ] Monitoring and Maintenance

- [ ] Collaboration and Workflow

- [ ] Scalability

- [ ] Security and Compliance

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

- Where do you see the most significant opportunities for improvement?

- [ ] Data Management

- [ ] Model Development

- [ ] Deployment and Integration

- [ ] Monitoring and Maintenance

- [ ] Collaboration and Workflow

- [ ] Scalability and Automation

- [ ] Security and Compliance

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

10. Future Goals:

- What are your short-term and long-term goals for AI/ML within your organization?

- [ ] Short-term: \_\_\_\_\_\_\_\_\_\_\_

- [ ] Long-term: \_\_\_\_\_\_\_\_\_\_\_

- How do you envision MLOps helping you achieve these goals?

- [ ] Improved Efficiency

- [ ] Faster Time to Market

- [ ] Better Model Performance

- [ ] Enhanced Collaboration

- [ ] Cost Savings

- [ ] Scalability

- [ ] Other: \_\_\_\_\_\_\_\_\_\_

**11. Business Objective**

- What are the primary business objectives you aim to achieve with MLOps?

- [ ] Increase Revenue

- [ ] Reduce Costs

- [ ] Improve Customer Experience

- [ ] Enhance Operational Efficiency

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

- What metrics do you use to measure the success of your AI/ML initiatives?

- [ ] ROI (Return on Investment)

- [ ] Customer Satisfaction Scores

- [ ] Time to Market

- [ ] Operational Cost Savings

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_

- What are your top strategic priorities for this engagement?

- [ ] Scaling AI/ML Efforts

- [ ] Enhancing Model Performance

- [ ] Improving Deployment Speed

- [ ] Strengthening Compliance and Security

- [ ] Other: \_\_\_\_\_\_\_\_\_\_\_