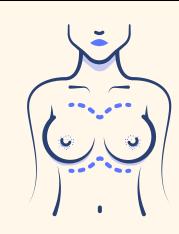


BREAST CANCER CLASSIFICATION USING ML



Objective &

- Build a model to classify breast cancer as malignant or benign.
- Improve early detection and patient outcomes.

MLOP workflow

Problem Definition

Data Management

Data collection and preprocessing pipeline.

Model Development

Train models

Model Validation

Evaluate performance using metrics (Accuracy, Precision, AUC).

Automate evaluation pipelines.

Model Deployment

Deploy the best model to production Use Docker or Kubernetes for scalability.

Monitoring & Maintenance

Monitor model performance (e.g., concept drift).

Automate retraining with new data.

Continuous Integration & Delivery (CI/CD)

Integrate updates seamlessly.

Automate testing and deployment.

Methodology

- Data Preprocessing: Handle missing values, scale features.
- Exploratory Data Analysis: Visualizations, correlation analysis.
- Model Selection: Logistic Regression, Random Forest, SVM, etc.
- Evaluation Metrics: Accuracy, Precision, Recall, F1-Score, ROC-AUC.

Conclusion

- Machine learning aids in efficient breast cancer classification.
- Future scope: Larger datasets, advanced techniques.



- Source:
 - https://www.kaggle.com/datasets/yasserh/breastcancer-dataset
- Features: Tumor characteristics (e.g., radius, texture, smoothness).
- Target: Malignant or benign classification.

GROUP MEMBERS:

SHREENIVAS DUDHATE: 202201070041 ADITI KULKARNI: 202201070046

NIKITA SHELAR: 202201070047