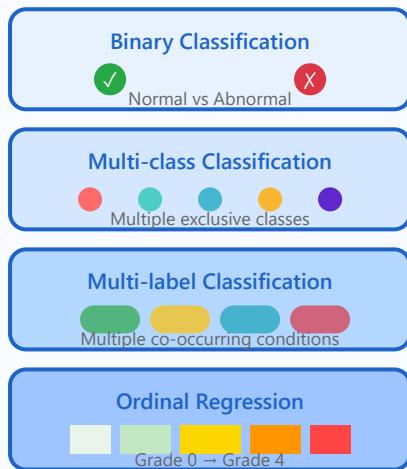


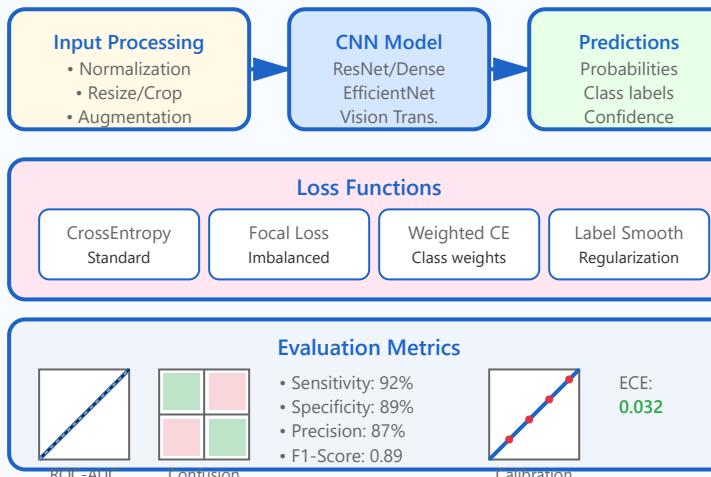
Classification Tasks

Medical Image Classification Pipeline

Classification Types



Processing Pipeline



Uncertainty Estimation

- Monte Carlo Dropout
Multiple forward passes
 - Deep Ensembles
Combine predictions
- ✓ Know when uncertain

Real Performance

ChestX-ray14 Dataset:	90%
Diabetic Retinopathy:	95%
Skin Cancer Detection:	88%

Disease Detection

Binary or multi-class classification. Pneumonia detection, cancer screening, retinopathy grading

Multi-label Classification

Multiple diseases per image. Thoracic diseases (14 classes in ChestX-ray14 dataset)

Ordinal Regression

Ordered categories (disease severity). Preserves ordering constraints in loss function

Uncertainty Estimation

Confidence in predictions. Monte Carlo dropout, ensembles, or Bayesian approaches

Ensemble Methods

Combining multiple models. Improves robustness and calibration of predictions