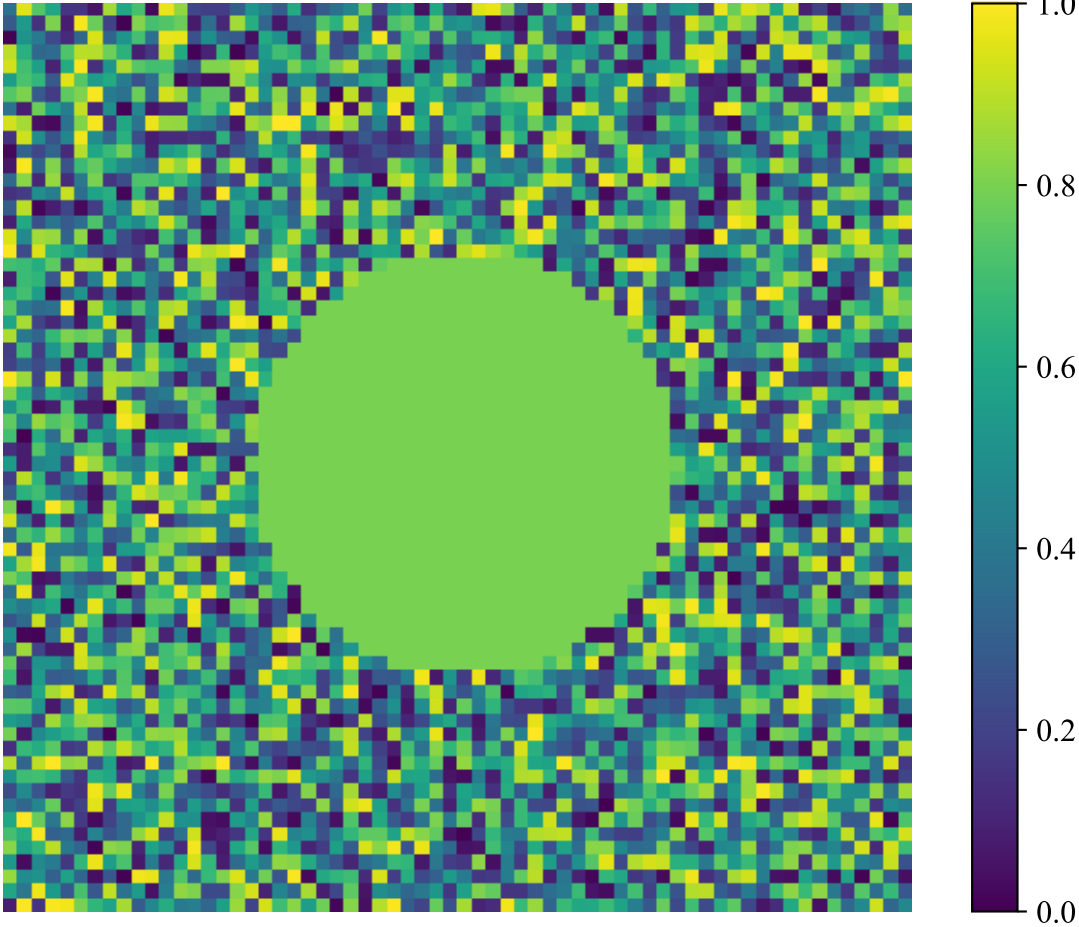


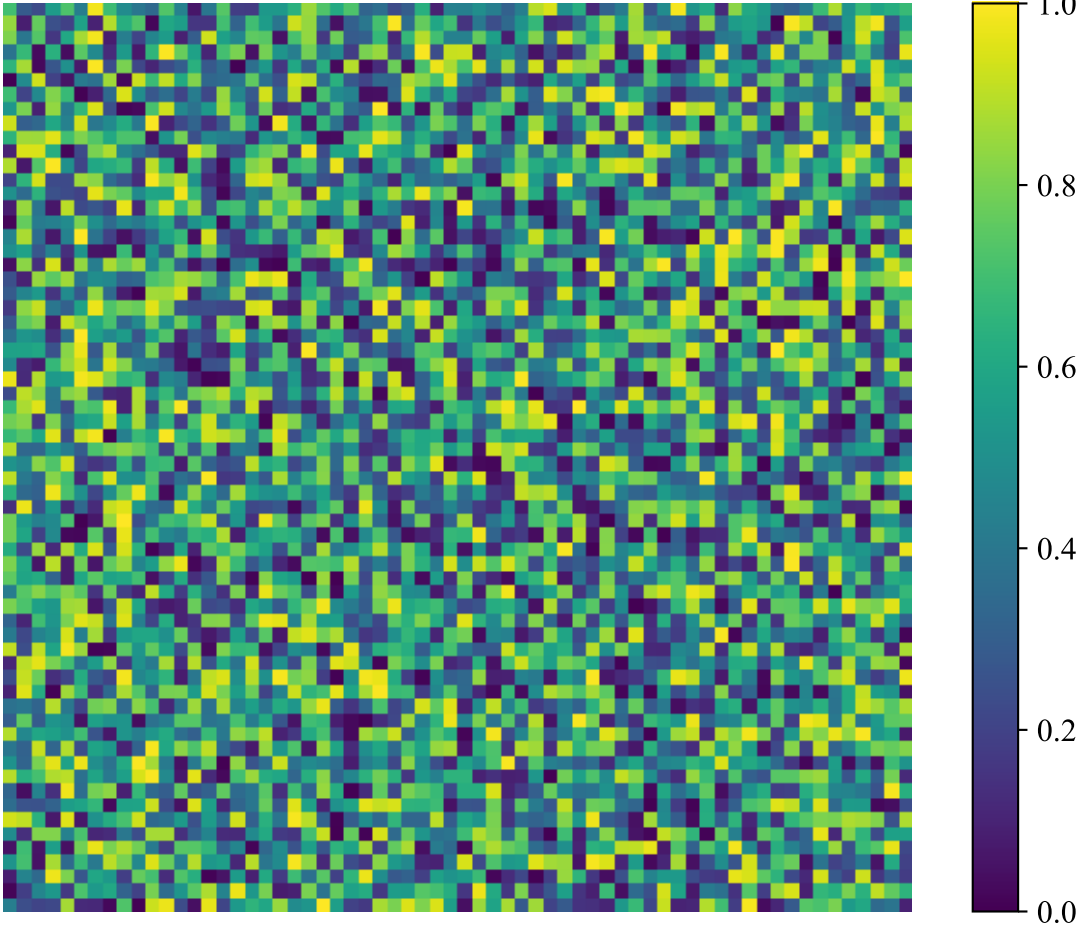
Figure 4.8: Error Analysis and Misclassification Patterns in Semiconductor Defect Detection

**(a) Correctly Classified Samples
(High Confidence Predictions)**



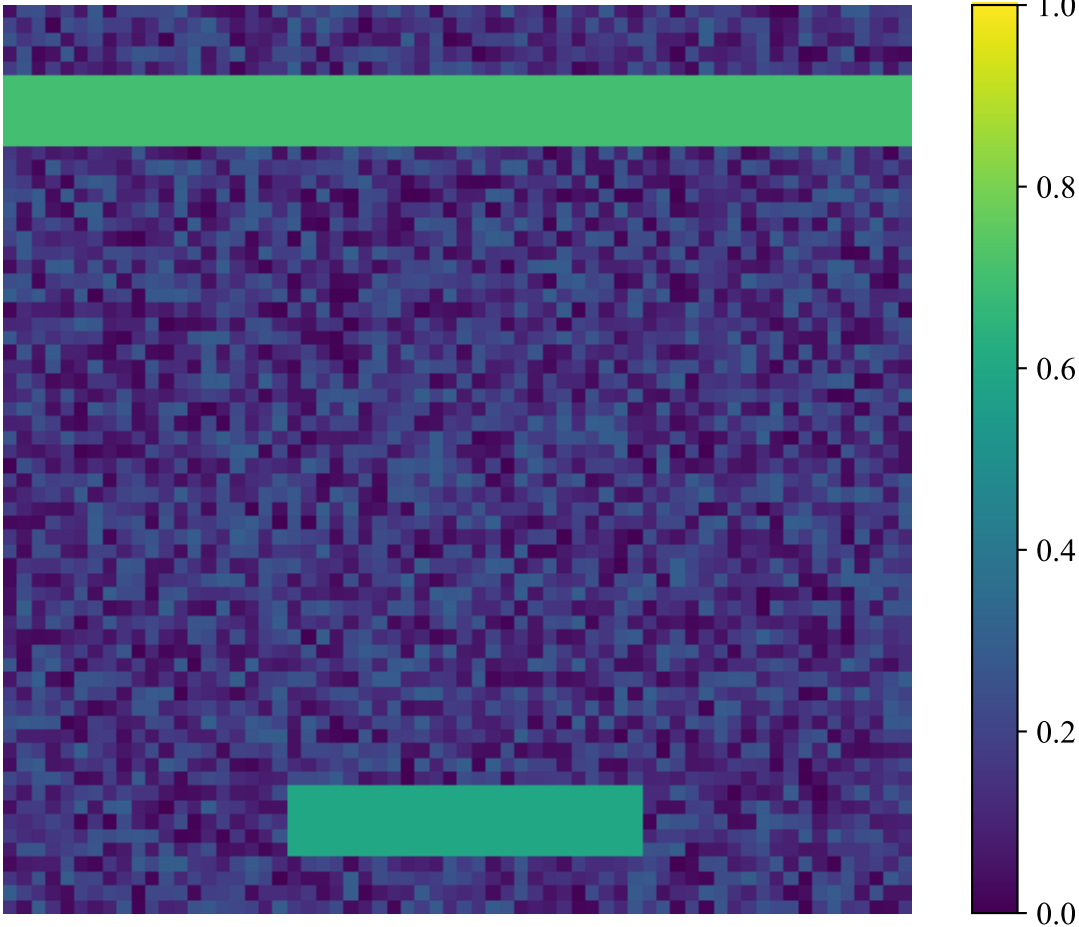
Center Defect: 0.94 confidence

**(b) Common Misclassifications
(Random vs. Loc Defects)**



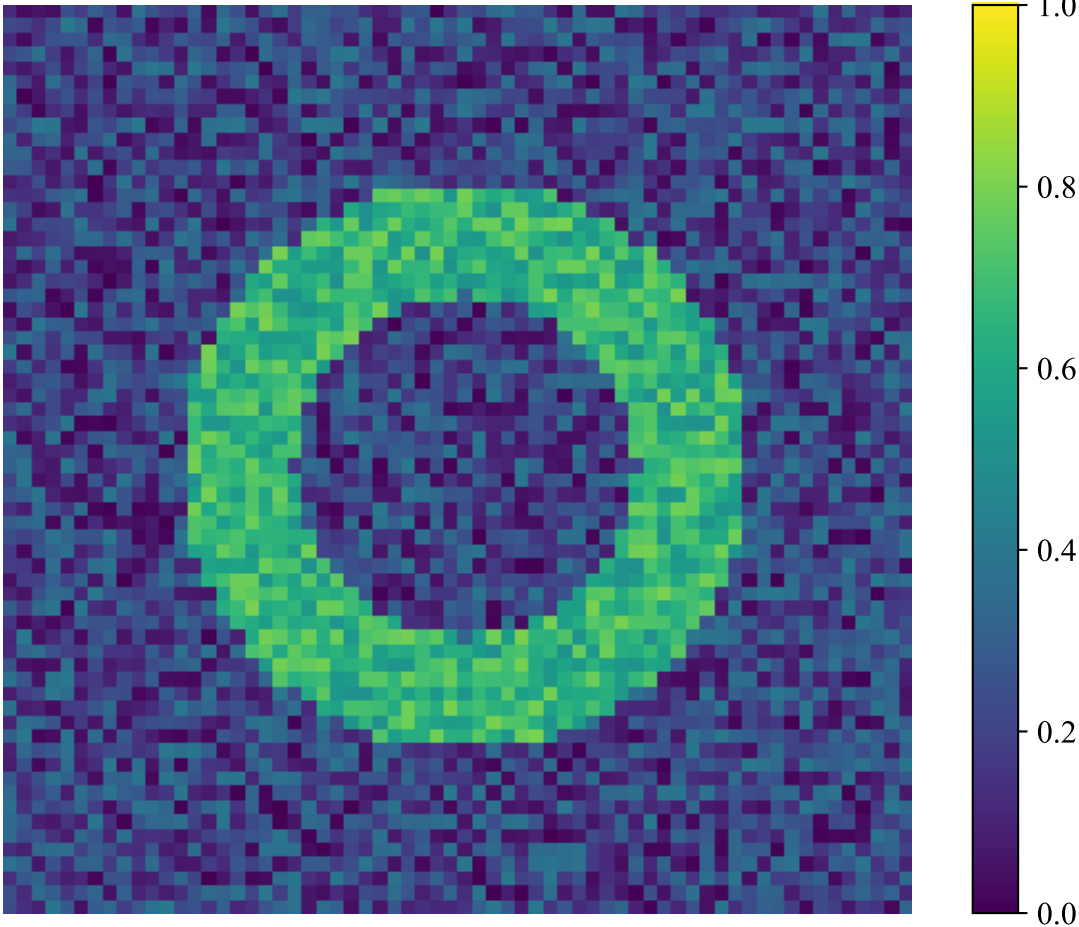
True: Random, Predicted: Loc (0.52 conf)

**(c) Edge Effects
(Scratch-to-Edge-Loc Confusion)**



True: Scratch, Predicted: Edge-Loc (0.48 conf)

**(d) Borderline Cases
(Requiring Human Review)**



Uncertain: Loc vs. Random (0.51 conf)