

# A UBIQUITOUS AND INTEROPERABLE DEEP LEARNING MODEL FOR AUTOMATIC DETECTION OF PLEOMORPHIC GASTROESOPHAGEAL LESIONS

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**A convolutional neural network trained on 59,482 esophagogastric capsule endoscopy frames from 5 centers achieved 94.6% accuracy in detecting pleomorphic lesions during testing.**

## KEY POINTS

- The model was developed using 774 capsule endoscopy procedures with an exam-based split of 90% for training and 5-fold cross validation.
- During testing, the model achieved sensitivity of 92.2%, specificity of 95.1%, and accuracy of 94.6%.
- Training performance showed mean sensitivity of 85.0%, specificity of 96.3%, accuracy of 93.6%, and AUC-ROC of 0.98.
- The authors note that prospective real-world studies comparing performance with standard upper endoscopy are needed to validate clinical applicability.
- This work addresses a gap in AI development for esophagogastric capsule endoscopy, which has been limited by scarcity of captured frames compared to small bowel and colon applications.

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