

Poster number (isuog2026.013004e) Intelligent Multimodal Ultrasound Assessment for Diagnosis of Endometrial Cancer Across Multicenter Cohorts

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Introduction

It remains challenging for radiologists to integrate multimodal data and subjectively diagnose endometrial cancer (EC), with a suboptimal sensitivity (39.5% to 77.6%). This study aimed to develop a multimodal model to assist radiologists in diagnosing EC.

Methods and Results

Based on retrospective multicenter cohorts of 1,708 patients, we developed and validated ECNet, a multimodal model that fuses structured clinical data, grayscale and color Doppler ultrasound. ECNet significantly outperformed single-modality models (area under the curve (AUC): 0.844–0.884 vs. 0.545–0.763; $P<0.05$), and maintained robust performance across major ultrasound manufacturers. Moreover, ECNet achieved superior AUC and sensitivity compared with both junior and senior radiologists.

Furthermore, with ECNet’s assistance, which combines saliency map and uncertainty quantification into human–AI collaboration, sensitivity increased by up to 12.8% and AUC by up to 0.107 for junior radiologists across external testing sets.

Conclusion
ECNet could potentially integrate multimodal data, standardize diagnostic workflow and augment EC detection.

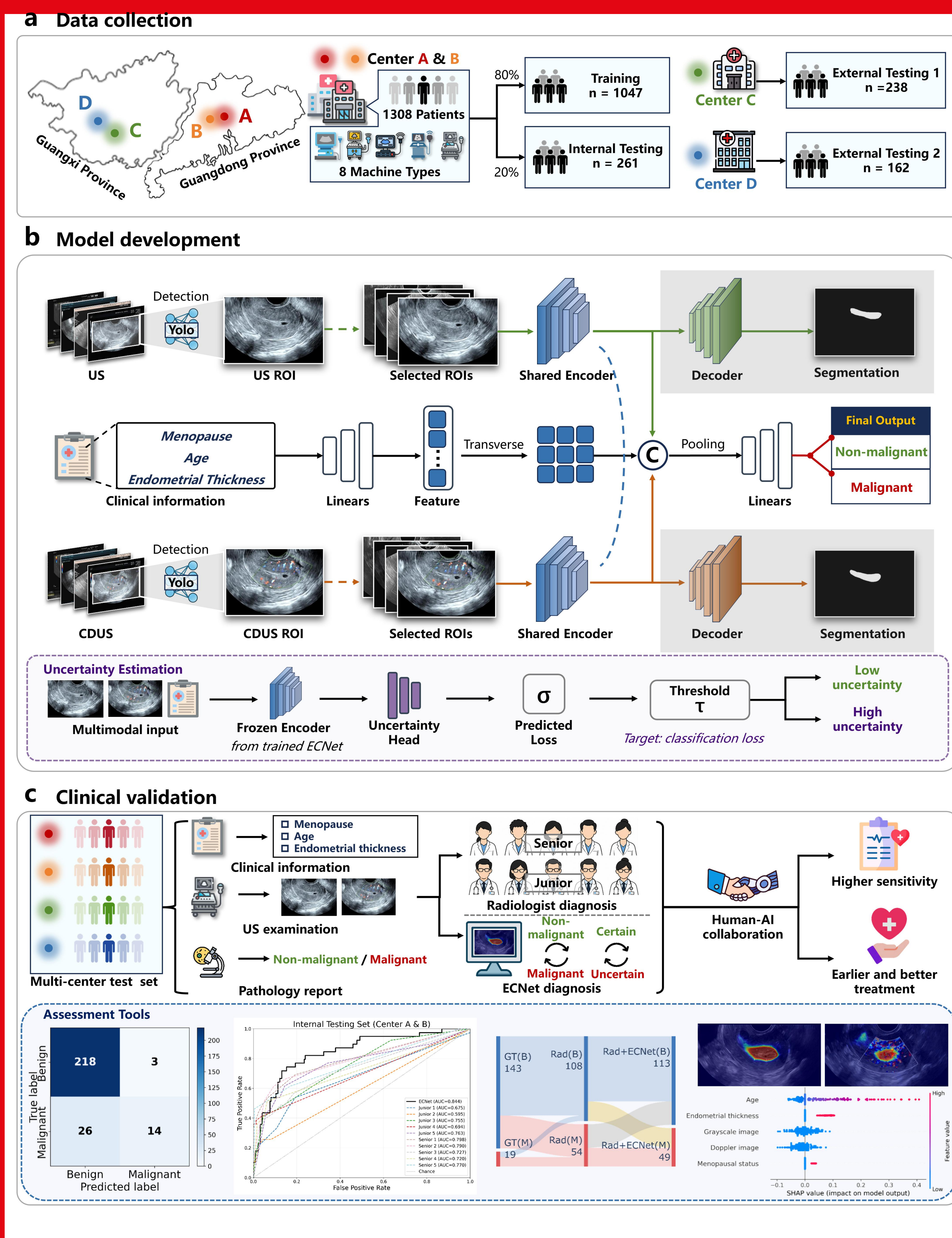


Figure 2. Overview of ECNet development and clinical validation workflow