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A Computer-aided Diagnosis System for Breast Ultrasound Based on Weighted BI-RADS Classes

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Highlights

- A computer-aided diagnosis (CAD) system for breast ultrasound based on weighted BI-RADS classes is proposed.
- The BI-RADS categories are weighted by pathological information to form three classes: benign, probably benign, and malignant.
- The imbalance between benign and malignant classes is reduced and the sensitivity is increased without degrading the specificity.
- The classification performance of the conventional CAD system trained only with pathological information is improved by the proposed approach.
- The proposed CAD system has the advantage of providing a multiclass outcome related to radiologists' recommendations.

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