# **Project Leaders**

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# Multimodal breast cancer risk prediction

The main challenge in breast cancer event prediction is how to capture dynamic breast tissue changes while accurately modeling the chronological order and interval between events. In addition, data sparsity and inadequate labeling further complicate this task, and improving the interpretability of predictive models is particularly critical to help physicians make early diagnoses and personalize treatment.

Therefore, an approach called OA-BreaCR has been proposed that focuses on integrating dynamic changes and time series data of longitudinal breast tissue through a long-term attention alignment model. It aims to address complex temporal alignment, data sparsity, and interpretability issues in breast cancer event prediction, providing a reliable tool for early diagnosis and personalized treatment, while improving the accuracy and practicality of prediction.

By accurately predicting the timing of future breast cancer events, the OA-BreaCR model improves prediction accuracy and provides healthcare workers with transparent, interpretable results that can help drive early intervention and personalized treatment, while effectively addressing data sparring and optimizing available resources.