

Machine Learning Improves Breast Cancer Screening and Diagnosis



Researchers in New Zealand are combining machine learning (ML) and standard imaging to improve both diagnosis and treatment of breast cancer.

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The Auckland Bioengineering Institute, Science and technology, Health and medicine Researchers at the Auckland Bioengineering Institute (ABI) and the Department of Engineering Science are combining the technology with imaging modalities to devise an automated analysis technique that will provide more information about any detected breast abnormality.

Breast scanning modalities position patients differently so show tissues in varying ways. Early signs of cancer can appear differently, presenting difficulties for isolated diagnosis.

Researchers have overcome this through developing biomechanical analysis techniques that automatically merge information from different medical images of the breast.

The University of Auckland researchers, include Professors Martyn Nash, Poul Nielsen, and Dr Prasad Babarenda Gamage.

A key challenge has been the identification of different biomechanical properties of the range of breast tissues.

“Breasts come in all shapes and sizes and the mechanical properties of the tissues vary from person to person,” said Dr Nielsen. “So that provides a challenge: to create, realistically, individual specific models.”

The research was enriched by drawing on 200 scans provided (with patient consent) by the Auckland District Health Board.

The research team has received \$1.05 million in philanthropic funding to further their research.

Source: [The University of Auckland](#)

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