



# **MACHINE-LEARNING APPROACHES FOR ULTRASOUND- BASED BREAST CANCER DETECTION**

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Data Science Diploma Capstone

**BrainStation**

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# STATISTICS

In a new study, researchers from the International Agency for Research on Cancer (IARC) and partner institutions provide a global overview of the burden of breast cancer in 2020 and estimate the impact this disease will have in 2040.

By 2040 the breast cancer burden will increase to more than 3 million new cases per year .

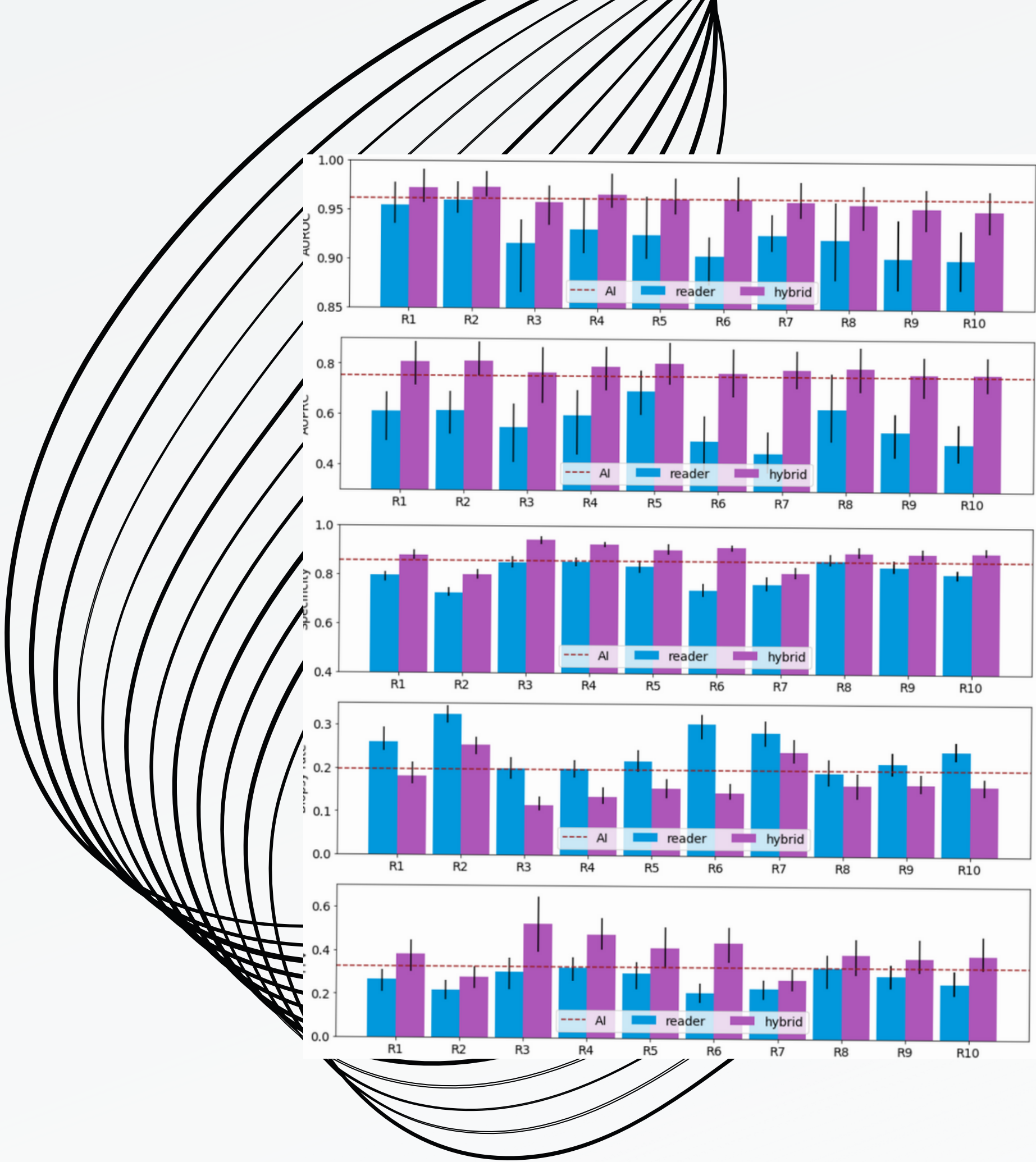
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# MORE STUDIES

*Artificial Intelligence System Reduces False-Positive Findings in the Interpretation of Breast Ultrasound Exams,*



# GOALS AND OBJECTIVES

## Machine-learning

Machine learning models have been employed to predict the survival prospects of patients

## Deep-Learning

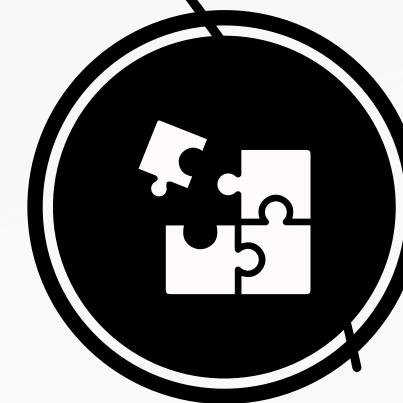
Newer algorithms such as deep learning can be tested with the aim of improving the models and prediction accuracy

## Machine -Learning Vs Deep- Learning

Accuracy of breast cancer survivability prediction



**BREAST CANCER SURVIVAL PREDICTION CAN HAVE AN EXTREME EFFECT ON SELECTION OF BEST TREATMENT PROTOCOLS.**

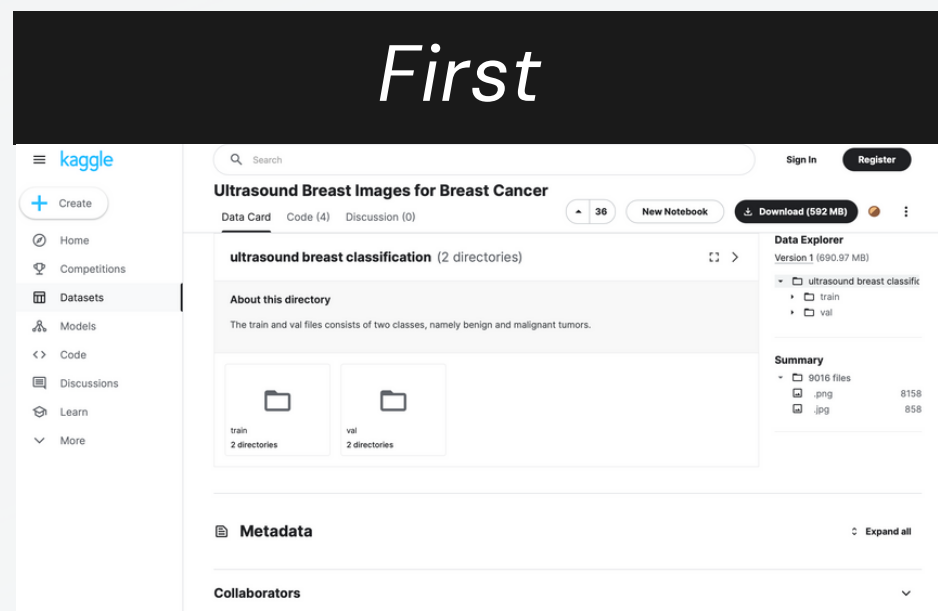


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# DATASETS

## First



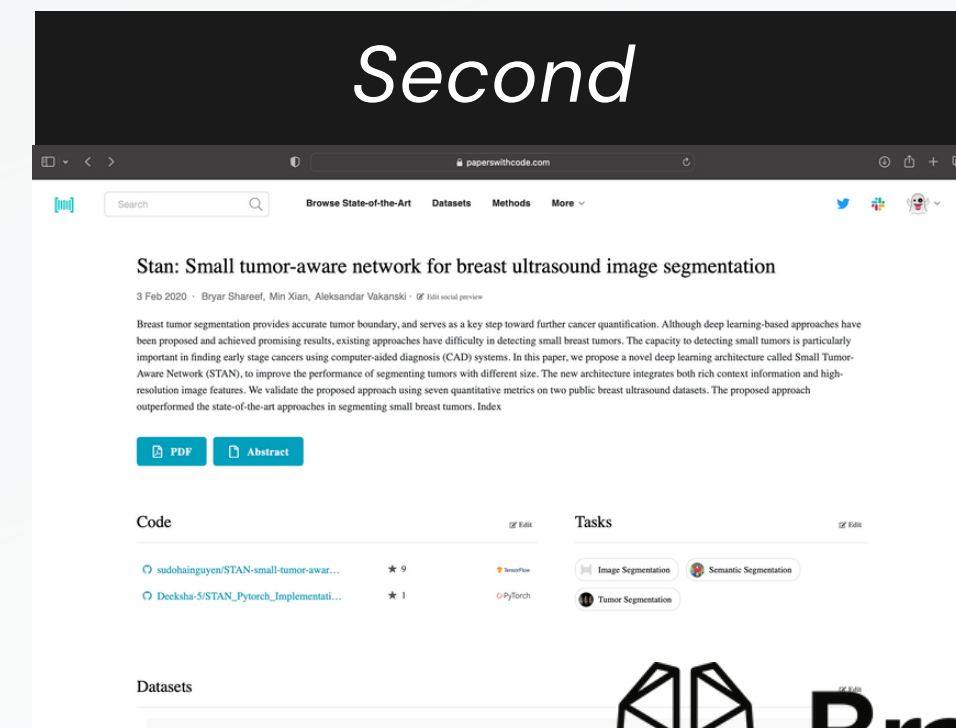
- The first set of dataset is an ultrasound breast. cancer images. This dataset consists of 9016 files which is classified into two train and val categories and each category itself is classified into two subcategories of Benign and Malignant.
- All files are in format of .png . And they obtained from kaggle database.

<https://nihcc.app.box.com/v/DeepLesion>

<https://paperswithcode.com/paper/stan-small-tumor-aware-network-for-breast>

[https://www.umbjournal.org/article/S0301-5629\(22\)00668-8/fulltext](https://www.umbjournal.org/article/S0301-5629(22)00668-8/fulltext)

## Second



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# TESTIMONIALS



**Rufus Stewart**



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**Morgan Maxwell**



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# STRATEGIES



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STRATEGY N°1



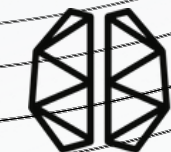
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STRATEGY N°2



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STRATEGY N°3





# CONCEPT IN BUSINESS

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# NEXTSTEPS

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**PROJECT 1**

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**PROJECT 2**

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**PROJECT 3**





# PROJECT TIMELINE

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