



A Comparison of Support Vector Machines and Convolutional Neural Networks in Breast Cancer Detection

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1. Recent trends in breast cancer

Background



Recent breast cancer trends



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Our Goal

- To train a classifier using support vector machines (SVMs) to predict that a patient has breast cancer based on tabular patient data
- To train another classifier using convolutional neural networks (CNNs) to predict that a patient has breast cancer based on patient mammograms
- To compare the accuracy between SVMs and CNNs in predicting breast cancer in patients



Our Dataset

- Our dataset comes from



Why did we choose to compare these two models?

- Our experiment is a reflection of what we've learned in this course
- We are exploring a mix of machine learning, deep learning, and computer vision concepts
- We are comparing two different approaches to classification using two different types of datasets (image and tabular data)

Support Vector Machine



Pre-Processing

1. Removed unneeded columns



Encoding

- One-Hot Encoding



Model Training



Discussion & Results

Convolutional Neural Network

Future Research & Implications



Benefits of Our Experiment



Potential Improvements in Experiment