

Chapter 12

A Survey on Early Detection of Women's Breast Cancer Using IoT

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ABSTRACT

The internet of things is probably one of the most challenging and disruptive concepts raised in recent years. Recent development in innovation and availability have prompted the rise of internet of things (IoT). IoT technology is used in a wide scope of certified application circumstances. Internet of things has witnessed the transition in life for the last few years which provides a way to analyze both the real-time data and past data by the emerging role. The current state-of-the-art method does not effectively diagnose breast cancer in the early stages. Thus, the early detection of breast cancer poses a great challenge for medical experts and researchers. This chapter alleviates this by developing a novel software to detect breast cancer at a much earlier stage than traditional methods or self-examination.

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INTRODUCTION

Breast cancer the second leading cause of death for women. Breast cancer is cancer that develops in breast cells. Typically, the cancer forms in either the lobules or the ducts of the breast. Lobules are the glands that produce milk, and ducts are the pathways that bring the milk from the glands to the nipple. Cancer can also occur in the fatty tissue or the fibrous connective tissue within your breast. Among women, breast cancer is the most second most common cancer diagnosed, after skin cancer, and the second leading cause of cancer deaths, after lung cancer. On average, 1 in 8 women will develop breast cancer in their lifetimes. About two-thirds of women with breast cancer are 55 or older. Most of the rest are between 35 and 54. Fortunately, breast cancer is very treatable if you spot it early. Localized cancer (meaning it hasn't spread outside your breast) can usually be treated before it spreads. Once the cancer begins to spread, treatment becomes more complicated. It can often control the disease for years.

Symptoms of Breast Cancer

In Early stages, breast cancer may not cause any symptoms. In many cases, a tumor may be too small to be felt, but an abnormality can still be seen on a mammogram. If a tumor can be felt, the first sign is usually a new lump in the breast that was not there before. However, not all lumps are cancer. Each type of breast cancer can cause a variety of symptoms.

- A breast lump or tissue thickening that feels different than surrounding tissue and has developed recently
- Breast pain
- Red, pitted skin over your entire breast
- Swelling in all or part of your breast
- A nipple discharge other than breast milk
- Bloody discharge from your nipple
- Peeling, scaling, or flaking of skin on your nipple or breast
- A sudden, unexplained change in the shape or size of your breast
- Inverted nipple
- Changes to the appearance of the skin on your breasts
- A lump or swelling under your arm

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