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(71)**Name of Applicant :**
1)Brainware University, Kolkata
Address of Applicant :398, Ramkrishnapur Rd, Near Jagadighata Market, Barasat, Kolkata, West Bengal 700125 ---------- ----------
Name of Applicant : NA
Address of Applicant : NA
(72)**Name of Inventor :**
1)Prashant Kumar Jha
Address of Applicant :Assistant Professor, Department of Allied Health Sciences, Brainware University, 398, Ramkrishnapur Road, Kolkata-700125 ---------- ----------
2)Subhamoy Satpathy
Address of Applicant :Tutor, Department of Allied Health Sciences, Brainware University, 398, Ramkrishnapur Road, Kolkata-700125 ---------- ----------
3)Avinash
Address of Applicant :Assistant Professor, Department of Allied Health Sciences, Brainware University, 398, Ramkrishnapur Road, Kolkata-700125 ---------- ----------
4)Kallal Das
Address of Applicant :Tutor, Department of Allied Health Sciences, Brainware University, 398, Ramkrishnapur Road, Kolkata-700125 ---------- ----------

(57) Abstract :
The present invention relates to a novel breast scanning modality device system designed to improve the diagnostic process for breast tissue anomalies. The system integrates multiple imaging technologies, including Optical Coherence Tomography (OCT), infrared (IR) imaging, and elastography, into a single handheld scanner. This combination allows for non-invasive, high-resolution imaging and real-time data analysis of breast tissue to detect abnormalities. An artificial intelligence (AI) module within the computing unit analyzes data from the sensors, utilizing advanced machine learning algorithms to distinguish between benign and malignant lesions with high accuracy. The device is specifically designed to be user-friendly, safe, and comfortable for patients, providing a significant advancement in the early detection and monitoring of breast cancer.

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