

THE GEORGE WASHINGTON UNIVERSITY

WASHINGTON, DC

Motivation

U.S. women, breast cancer will be For the diagnosed among about 1 in 8 during their lifetime and it is the second leading reason for death.



We infrared investigating the use Of are thermography as a noninvasive adjunctive technique to mammography for breast screening. Thermal imaging is fast, passive (no radiation is emitted), and non-contact. To reduce the area for tumor search and searching time, we wish to segment the breast area from the thermal image, which includes regions of chest and abdomen.

Previous Studies

Breast thermogram segmentation







Edge detection, Hough transform feature curve (parabola) extraction, Hairong Qi et al., 2000





Edge detection and interpolation of curves, N. Scales et al., 2004



Snake algorithm, Eddie Y.-K. Ng & Y. Chen, 2006



Edge detection and boundary curves, Pragati Kapoor et al., 2012



Anisotropic diffusion filter based edge detection, S.S. Suganthi et al., 2014



Automated segmentation algorithm via Ellipse detection, Nada Kamona et al. (our lab), 2018

Segmentation of Thermal Breast Images Using Convolutional and Deconvolutional Neural Networks Shuyue Guan and Murray Loew Department of Biomedical Engineering, George Washington University Washington, D.C. USA









