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ABSTRACT

PRESENTATION

PAPER

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# DETECTION OF PERFORATORS FOR DIEP FLAP BREAST RECONSTRUCTION USING DEEP LEARNING ON THERMAL IMAGES

Breast reconstruction is a critical component of the treatment process for breast cancer patients. When combating this disease, it is often necessary to surgically remove affected portions of the breast to halt the spread of cancer and minimize the risk of recurrence. When the breast or a part of the breast is removed, known as a mastectomy, the patient can choose whether they would like to undergo breast reconstruction.

The primary goal of this research project is to develop an artificial intelligence (AI) model, capable of automatically locating perforators using thermal images, obtained through infrared thermography. This reduces the need for human intervention. Consequently, the optimal donor tissue can be determined, enabling the surgeon to identify the usable part of the removed tissue accurately. A first version of an AI model focused on locating these perforators preoperative, has already been developed. Thus, the current focus is on creating a pre- and intraoperative model, which can evaluate the pre-operative model's decisions intraoperatively and compare their accuracy.