

Abstract Submitted
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Using the nnU-net Framework for Pectoral Muscle Segmentation and Posterior Nipple Line Quantification¹ NATHANIEL FREDETTE, IVAN VAZQUEZ, MD Anderson Cancer Center — The length of the posterior nipple line (PNL) is essential for positioning the breast to achieve high quality mammograms. Therefore, a method to determine this parameter quickly while setting up mammographic exams can be valuable. The calculation of PNLs can be described as a three-step process: (1) segmenting and drawing the boundary of the pectoralis muscle (PM), (2) locating the nipple, and (3) calculating the orthogonal Euclidean distance between the nipple and PM. Traditionally, this workflow is performed manually by a radiologist. More recent methods involve hand-engineered image processing techniques. We propose to approach chest wall identification through a nnU-net, which is state of the art in biomedical image segmentation. Additionally, a hand-engineered method using a geometrical approach followed by region growing will be compared with the nnU-net performance. An automatic nipple locator technique will be used in combination with both PM segmentation methods. We will estimate PNLs for the two automatic methods and compare with manual picks. The results from manual picks will be used as the ground truth in our experiments. We expect with enough training data, the nnU-net method will produce distances closer to the ground truths than the existing technique.

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Nathaniel Fredette
MD Anderson Cancer Center

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