

# Image Processing in Digital Mammography

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## **Abstract**

Digital mammography made the development of Computer Aided Detection (CAD) algorithms possible. CAD algorithms are mainly used to obtain a second opinion without the need for consulting other radiologists or generally to improve the false negative rate. Image processing in digital mammography can be divided in a few basic steps: preprocessing, feature extraction, classification and knowledge extraction. Preprocessing includes contrast enhancement and removal of objects that can interfere in further feature extraction. After the desired features are extracted and classified it is possible to extract the knowledge from the image. The majority of CAD algorithms aim at the detection of microcalcifications and masses. Because mammograms have low contrast in comparison with other X-ray images, it is more difficult to detect certain object automatically and it is necessary to use statistical methods. After the development stage, it is necessary to test CAD algorithms on a standardized mammographic database.