

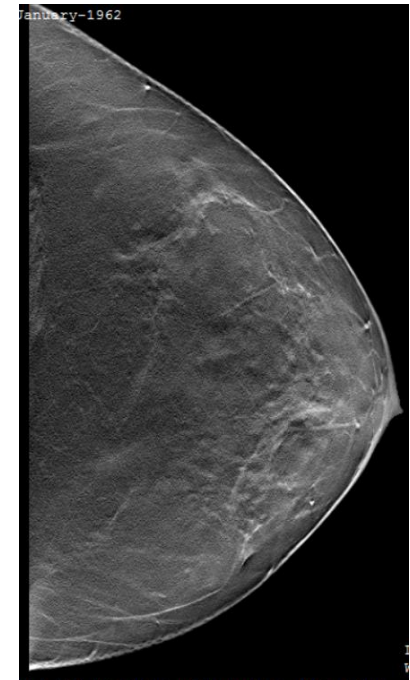
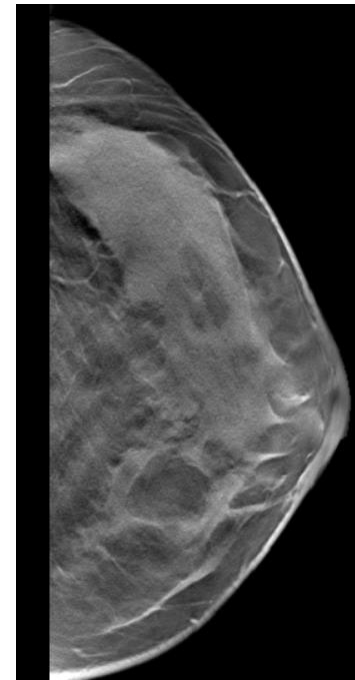
FINAL PROJECT 2017

Robert Martí

Final Project. Challenge!

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- Breast density estimation in DBT
 - ▣ Risk factor for developing breast cancer (5x) and lesion masking.
 - ▣ Breast density is classified using 4 labels (BIRADS).
 - BIRADS 1: almost fatty (glandular tissue $< 25\%$).
 - BIRADS 2: scattered glandular tissue between 25-50%
 - BIRADS 3: heterogeneously dense. (50-75%) B-4
 - BIRADS 4: extremely dense ($> 75\%$).
 - ▣ Choose your own implementation
 - ▣ Mevislab / ITK / Matlab
- Evaluation Criteria
 - ▣ Accuracy, correct classification
 - ▣ Methodology
 - ▣ Computational time



Final Project

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- Data with ground truth (BIRADS class).
 - ▣ Breast DBT images from 16 patients (4 class each).
 - ▣ For each patient we have original images and BIRADS class (1 - 4) in a csv.
- Data Given the day of the challenge (15th May)
 - ▣ 4 new DBT **without** the GT.
 - ▣ I will evaluate online.
- Aim
 - ▣ Classify the images into a BIRADS class for density
 - ▣ You can use the same dataset for training your algorithm (if needed), but do not use the same patient for train & test!
 - ▣ Evaluate

Final Project

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- Supervision and follow up
 - ▣ Friday 31 March 10-12 (CV Lab)
 - ▣ Friday 28 April 10-12 (CV Lab)
 - ▣ Submission deadline
 - 17th May: oral presentations
 - 24th May: report and source code.
 - ▣ Challenge day: 24th May
 - ▣ Submission
 - Presentation (ppt, odps)
 - Code and executable.
 - Report in paper format (latex).

Final Project. Evaluation

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- Good coding practice 10%
 - ▣ Correct and clear programming, use of functions/objects, templates, etc and consistent code and comments.
- Methodology 25%
 - ▣ Methods used are well justified, sound and clear.
 - ▣ Know the limitations (when does it fail).
- Evaluation and results 20%
 - ▣ Accuracy. Sensitivity and specificity. Dice Similarity coefficient
 - ▣ Computational time
- Oral presentation 25%
- Report 20%