Segmentation of Breast Cancer Masses in Digital Mammograms: A Convolutional Network

Preliminary results

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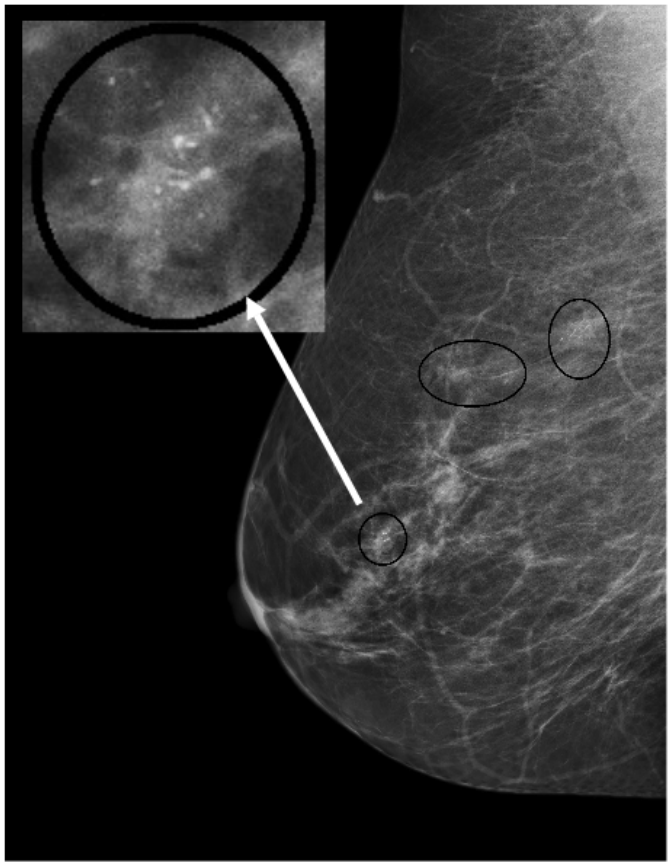
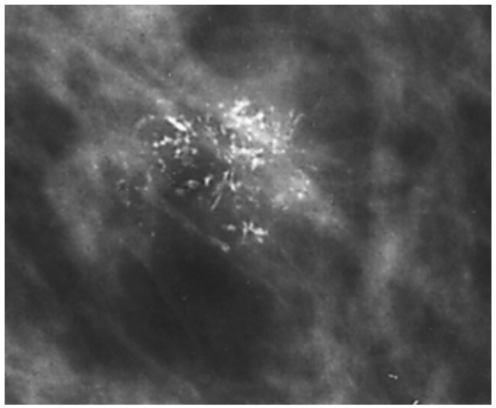
Why breast cancer?

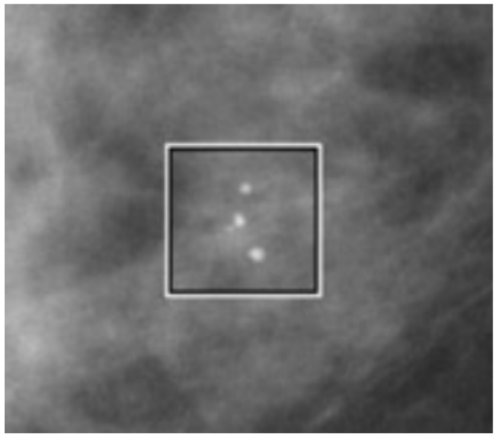
Breast cancer is the most commonly diagnosed cancer in women and, besides lung cancer, the deadliest.
However, survival rate when detected early is close to 100%

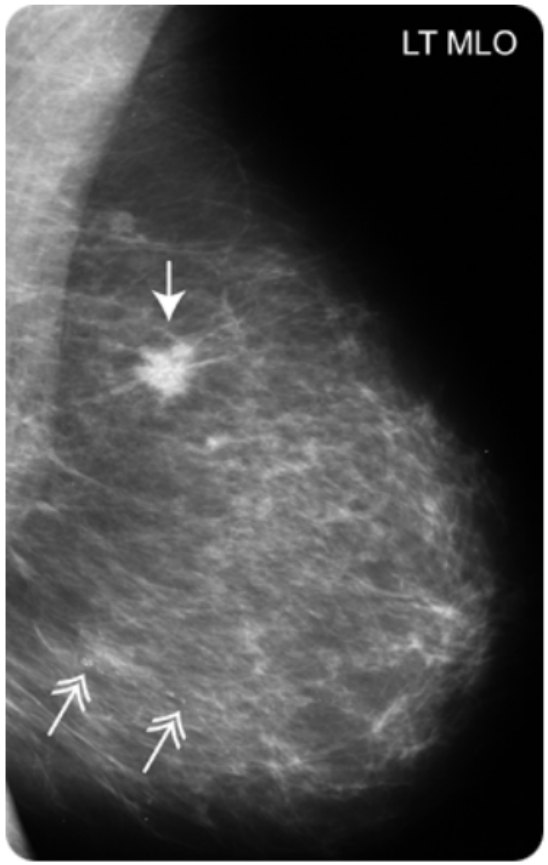
Breast cancer signs

Microcalcifications and breast masses









What do we plan to do?

Why convolutional networks?

Convnets have showed great results in image classification tasks.
Convnets learn which features are important for the classification.
We can use as is to perform image segmentation.
We don't need experts to carefully handcraft and select features.
Cons: Needs processing power, data.

Some convnet successes

Our work

Literature Review
Obtain and preprocess data set
Design, implement and test a network
Prepare equipment
[In progress] Training the networks

Collaboration

Apply machine learning to your problems
Solve problems in Machine Learning
Explore new ideas

Thanks!