



Contrast-Enhanced Mammography Dataset for AI Research

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The introduction of Artificial intelligence in the field of breast Imaging was intended to enrich the impact of breast imaging radiologists on patient care and to enhance the workflow in breast imaging units (mainly screening units). The current AI systems in practice can learn to extract imaging features that are both perceptible and imperceptible to the human eye. Advances in AI technologies result in significant clinical utility in the field of breast imaging as their application upgrades the diagnostic performance and competence of breast imaging radiologists by decreasing the false positive and false negative results.

Most studies and applications of robust artificial intelligence systems were trained on and mainly addressed digital mammography images. With the accelerating role and clinical utility of contrast-enhanced mammography (CEM), it has become essential to explore the impact of adding artificial intelligence models to CEM.

In the current lecture we will discuss two potential applications of AI to CEM.

- **Application 1:** CEM-based artificial intelligence quantitative tool to assess the response of malignant breast masses to neo-adjuvant therapy.
- **Application 2:** A deep learning model that classifies contrast enhanced spectral mammography images and produces corresponding highlights of lesions detected.

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