

Question 6

Summarise the research on AI and cancer at Lund University.

Answer

Based on the provided context, the research on AI and cancer at Lund University is primarily conducted by researchers such as Kristina Lång, Marthe Larsen, Camilla F. Olstad, Henrik W. Koch, Marit A. Martiniussen, Solveig R Hoff, Håkon Lund-Hanssen, Helene S. Solli, Karl Øyvind Mikalsen, Steinar Auensen, Jan F Nygård, and Solveig Hofvind.

Their research focuses on the application of artificial intelligence (AI) in mammography screening, specifically in the context of BreastScreen Norway. Some key findings from their research include:

- * A study examining the performance of a commercially available AI system in detecting breast cancer in mammography screening found that the AI system showed a statistically superior and non-inferior area under the receiver operating characteristic curve (AUROC) compared to radiologists using the Prostate Imaging—Reporting and Data System version 2.1 (PI-RADS 2.1) (Researcher: A. Bjartell, A. Saha, Henkjan Huisman).

- * Another study found that more than one in three cases of screen-detected and interval cancers had the highest AI risk score at prior screening, suggesting that the use of AI in mammography screening may lead to earlier detection of breast cancers (Researcher: Kristina Lång, Marthe Larsen, Camilla F. Olstad, Henrik W. Koch, Marit A. Martiniussen, Solveig R Hoff, Håkon Lund-Hanssen, Helene S. Solli, Karl Øyvind Mikalsen, Steinar Auensen, Jan F Nygård, Solveig Hofvind).

- * A study comparing the performance of a commercially available AI system with routine, independent double reading with consensus as performed in a population-based screening program found that the AI system showed promising results, with a proportion of screen-detected cancers not selected by the AI system at the three evaluated thresholds being less than 20% (Researcher: Kristina Lång, Marthe Larsen, Camilla F. Aglen, Christoph I. Lee, Solveig R Hoff, Håkon Lund-Hanssen, Jan F Nygård, Giske Ursin, Solveig Hofvind).

These studies contribute to the growing body of research on the application of AI in cancer detection and diagnosis, with a focus on mammography screening and the potential benefits and challenges of using AI in this context.