IIT researchers turn to Artificial Intelligence for identifying cancer

25 July 2017 | News

It seeks to reduce human error in identifying breast cancer of various levels of aggressiveness to assist in distinguishing normal and low and higher risk malignant tumours.

A team of experts from IIT-Kharagpur (IIT-Kgp) and Tata Medical Centre (TMC), Kolkata, has devised a computer-assisted model they say can automatically grade breast cancer aggressiveness, even in remote settings, providing fresh impetus to Artificial Intelligence-based medical technology in India.

It seeks to reduce human error in identifying breast cancer of various levels of aggressiveness to assist in distinguishing normal and low and higher risk malignant tumours.

The team has tapped into deep learning, a form of AI concerned with algorithms inspired by the structure and function of the brain called artificial neural networks. The application revolves around a protein (or marker) called Ki-67 which is used to calculate an index that groups cancers in the "low" or "high" aggressiveness groups.

The Ki-67 globally-approved index is used to help predict outcome or prognosis and help figure out what treatment might work best. It is increasingly being used by doctors to reflect cancer behaviour.

The next phase of the study is validation. The clinicians and the pathologists are going to recruit patients and the researchers will treat them depending on what the pathologists say. The results from the software will be tallied as well as from the pathologists, so the discordant rates are pretty low. Then the process will be released for clinical use.