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# IIT-Guwahati designs automated AI system to detect colorectal cancer

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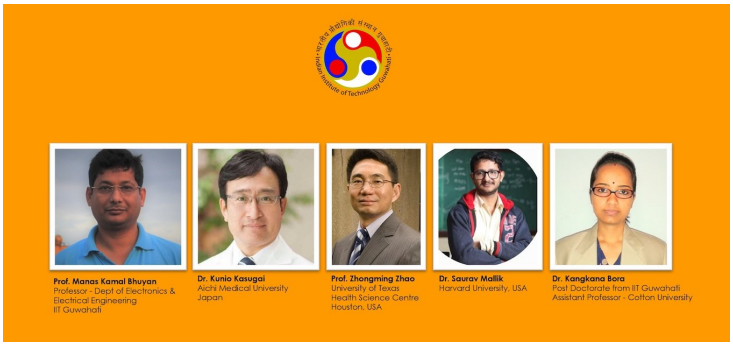
**Scientists from Cotton University, Guwahati, Harvard University, University of Texas Health Science CentreHouston and Aichi Medical University, Japan have collaborated with the IIT Guwahati professor in this development**




A team of researchers from the Indian Institute of Technology Guwahati (IIT Guwahati), led by Prof Manas Kamal Bhuyan, Professor, Department of Electronics and Electrical Engineering, IIT Guwahati, along with scientists from renowned research institutes around the world, have designed an automated artificial intelligence-based system to detect colorectal cancer using colonoscopy images. Results of their work have recently been published in Nature group - Scientific Reports.

The paper has been co-authored by Dr Kangkana Bora of Cotton University, Guwahati, Dr Kunio Kasugai of Aichi Medical University, Japan. Prof Zhongming Zhao from the University of Texas, Health Science Centre, Houston, US, and Dr Saurav Mallik of Harvard University, US have also contributed to the study.

“We have developed an innovative automated system that can help the physician rapidly and accurately detect colorectal cancer from colonoscopy images,” says Prof Bhuyan.

Scientists from Cotton University, Guwahati, Harvard University, University of Texas Health Science Centre Houston and Aichi Medical University, Japan have collaborated with the IIT Guwahati professor in this development. Assisted by his then-post doctorate student, Dr Kangkana Bora, who is now an assistant professor at the Cotton University, Prof Bhuyan analysed real colonoscopy images generated by Dr Kunio Kasugai of Aichi Medical University, to develop the AI based cancer detection system.

“Our extensive experiments show that the proposed method outperforms the existing feature-based (conventional) approaches for colonic polyp detection,” the authors write in their paper. To evaluate the robustness of their system, they compared their work with four classical deep learning models and found theirs to be better than others.

“Our AI algorithm can be easily integrated with current methods of diagnosis, which is a significant USP for this work,” says Dr Bora.

They plan to commercialise the technology in the future as the market need is enormous.