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-

title: Md Kamrul Hasan role: Assistant Professor in Electrical and Electronic Engineering bio: My research interests include Artificial Intelligence, Deep Learning, Physics-informed Neural Networks, Medical Image Computing, Computer Vision, Data Science, AR in Surgical Robotics, Biomedical Signal Processing interests:

- Artificial Intelligence
- Deep Learning
- Physics-informed Neural Networks
- Medical Image Computing
- Computer Vision
- Data Science
- AR in Surgical Robotics
- Biomedical Signal Processing

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- icon: youtube icon_pack: fab link: <https://www.youtube.com/channel/UCP5TWOoSUG8eO1niU2iniZw> organizations:
- name: Khulna University of Engineering & Technology url: <https://kuet.ac.bd/>

Education to show in About widget

education: courses:

- course: PhD in Bioengineering (Medical Imaging with Physics-informed Neural Networks) institution: Imperial College London (ICL), United Kingdom year: 2026

(Expected)

- course: Erasmus Mundus Joint Master Degree Medical Imaging and Applications (MAIA) institution: University of Burgundy (France), University of Cassino and Southern Lazio (Italy), University of Girona (Spain) year: 2019
- course: MSc in Electrical and Electronic Engineering (EEE) institution: Khulna University of Engineering & Technology year: 2017
- course: BSc in Electrical and Electronic Engineering (EEE) institution: Khulna University of Engineering & Technology year: 2014

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Md Kamrul Hasan is an Assistant Professor in Electrical and Electronic Engineering at Khulna University of Engineering & Technology ([KUET](#)) and works on AI in Medical Image Computing. He received a BSc engineering degree in Electrical and Electronic Engineering (EEE) in 2014 from the KUET, scoring summa-cum-laude CGPA of 3.93 (Out of 4.00) and ranked 1st out of 115 students in the class. In 2017, he completed the MSc engineering degree in EEE from KUET, scoring summa-cum-laude CGPA of 4.00 (Out of 4.00). Again, Mr. Hasan achieved another MSc degree in Erasmus Mundus Joint Master Degree [Medical Imaging and Applications \(MAIA\)](#) in 2019 from France ([University of Burgundy](#)), Italy ([University of Cassino and Southern Lazio](#)), and Spain ([University of Girona](#)).

He worked on the laparoscopic images and AI during the MAIA thesis at the [EnCoV](#) research team (Clermont-Ferrand, France) under the supervision of [Professor Dr. Adrien Bartoli](#). The thesis proposed an [ART-Net](#) for simultaneous tool detection, segmentation, and geometric feature extraction. Those features were then utilized to estimate the 3D tool pose. The segmented masks were utilized for tool-aware rendering in Augmented Reality (AR) in minimally invasive surgeries, improving depth perception in laparoscopy. The 3D tool pose was used for 3D measurement and overlaying pre-operating 3D model onto the real-time laparoscopic image for AR in computer-assisted laparoscopy. Later, the thesis was published in the Journal of [Medical Image Analysis](#) (Elsevier) in 2021 ([Article](#)). Mr. Hasan's research interest concentrates on developing automated AI-based systems for medical appliances.

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