Stanford

Elima Hussain

Postdoctoral Scholar, Radiology

Bio

BIO

Dr. Elima is working with GE Healthcare on developing rapid dual-contrast PET/MRI protocols for staging and assessment of rectal cancer. She is also working on development of AI based segmentation models for muscle and fat separation using pelvic MRI images in pelvic floor disorder patients. This project is undergoing in collaboration with Stanford AIMI center and AWS cloud computation support. Her research interests include translation of quantitative MRI and PET/MRI, radiomics, machine learning for predicting treatment response in rectal cancer, gynecologic malignancies, and inflammatory bowel diseases.

HONORS AND AWARDS

- ISMRM Trainee Stipend Award for oral presentation at ISMRM Workshop on Body MRI, Philadelphia, The International Society for Magnetic Resonance in Medicine (2024)
- AIMI AWS Cloud Credit Program Award, Stanford Center for Artificial Intelligence in Medicine and Imaging (2024)
- Finalist in BIRAC BIG NER 2 Grant call 2022, BIRAC, Department of Biotechnology, Government of India (2022)
- BRICS Young Scientist Award 2021, Department of Science and Technology, Government of India (2021)
- Winner of FAME BIOTECH 2021 Hackathon, Bionest-IASST (2021)
- Finalist BIRAC SITARE GYTI award 2021, Department of Biotechnology, Government of India (2021)

STANFORD ADVISORS

- Vipul Sheth, Postdoctoral Faculty Sponsor

Research & Scholarship

LAB AFFILIATIONS

- Vipul Sheth, Sheth Lab (8/1/2024)

Publications

PUBLICATIONS

- **The Application of Combined PET/MRI in Staging and Response Assessment of Rectal Cancer.** *Journal of clinical medicine*
  Hussain, E., Sheth, V. R.
  2025; 14 (20)
- **Exploring explainable artificial intelligence techniques for evaluating cervical intraepithelial neoplasia (CIN) diagnosis using colposcopy images** *Expert Systems with Applications*
  Hussain, E., Mahanta, . B., Borbora, . A., Bora, H., Choudhury, . S., et al

2024

- **A Study on Effects of Different Image Enhancement Techniques on Cervical Colposcopy Images** *International Conference on Artificial Intelligence and Sustainable Engineering*
  Hussain, E., Mahanta, L. B., Borbora, K. A., Shah, A., Subhasini, D., Das, T., et al
  Springer, Singapore.2022: 303-313

- **IHC-Net: A fully convolutional neural network for automated nuclear segmentation and ensemble classification for Allred scoring in breast pathology** *APPLIED SOFT COMPUTING*
  Mahanta, L. B., Hussain, E., Das, N., Kakoti, L., Chowdhury, M.
  2021; 103

- **AIM and Cervical Cancer** *Artificial Intelligence in Medicine*
  Mahanta, L., Hussain, E., Bora, K.
  edited by Lidströmer, ., Ashrafian, H.
  Springer, Cham.2021; 1

- **A comprehensive study on the multi-class cervical cancer diagnostic prediction on pap smear images using a fusion-based decision from ensemble deep convolutional neural network** *TISSUE & CELL*
  Hussain, E., Mahanta, L. B., Das, C., Talukdar, R.
  2020; 65: 101347

- **Automated classification of cells into multiple classes in epithelial tissue of oral squamous cell carcinoma using transfer learning and convolutional neural network** *NEURAL NETWORKS*
  Das, N., Hussain, E., Mahanta, L. B.
  2020; 128: 47-60

- **A shape context fully convolutional neural network for segmentation and classification of cervical nuclei in Pap smear images** *ARTIFICIAL INTELLIGENCE IN MEDICINE*
  Hussain, E., Mahanta, L. B., Das, C., Choudhury, M., Chowdhury, M.
  2020; 107: 101897

- **Liquid based-cytology Pap smear dataset for automated multi-class diagnosis of pre-cancerous and cervical cancer lesions** *DATA IN BRIEF*
  Hussain, E., Mahanta, L. B., Borah, H., Das, C.
  2020; 30: 105589

- **A Study on Epidemiological Factors and its Association with Pathological Findings for Precancerous Symptoms of Cervical Cancer** *Indian Journal of Public Health Research & Development*
  Das, C. R., Mahanta, L. B., Borah, H., Hussain, E., Devi, A., Choudhary, M., Adhikari, A. C., et al
  2019; 10 (12)