



AI in Medical Imaging And Diagnostics: Current Trends and Challenges

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Objective (Electronics & ICT Academy-Phase II)

1) To conduct specialized FDPs for faculty/mentor training in line with the vision of MeitY by promoting emerging areas of technology and other high-priority areas that are pillars of both the "Make in India" and the "Digital India" programs.

2) To promote synergy and collaboration with industry, academia, universities and other institutions of learning, especially in emerging technology areas.

3) To support the National Policy on Electronics 2019 (NPE 2019) which envisions positioning India as a global hub for ESDM sector, including MeitY Schemes/policies such as Programme for Semiconductors and Display Fab Ecosystem; India AI; National Programme on AI, Production Linked Incentive Scheme for IT Hardware & Large-Scale Electronics Manufacturing; EMC; SPECS; Chips to System (C2S); etc.

4) To promote standardization of FDPs through Joint Faculty Development Programmes.

5) To support the vision of the National Education Policy (NEP 2020), which mandates that Indian educators go through at least 50 hours in professional development programmes per year.

6) To design, develop & deliver specialised FDPs on emerging technologies/ niche areas/ specialised modules for specific research areas for Faculty in Higher Education Institutions (HEI), besides FDPs on multi-disciplinary areas connected with ICT tools and technologies and other digital hybrid domains, covering a wide spectrum of engineering and non-engineering colleges, polytechnics, ITIs, and PGT educators.

An intensive 40 Hour Faculty Development Programme in Online mode is being organized for faculty of engineering and technological and medical institutions. It is also open to persons from industry and doctoral students of Indian organizations. The FDP aims to provide a platform for faculty members and researchers to enhance their knowledge and skills in AI-enabled Healthcare Applications. The main theme of this program will be oriented around exploring the state-of-the-art ML/DL methods for Medical Imaging and Diagnostics. Also, the FDP offers useful hands-on sessions, bridging the gap between theory and practice. **The program is scheduled to take place daily from 4:00-8:00 PM.**

Experts/Speakers-

1) Dr. Tapan Kumar Gandhi, IIT Delhi	11) Dr. Rohit Saxena, AIIMS New Delhi
2) Dr. Dwarkanath Mahapatra, IIAI, UAE	12) Dr. Jyotishman Saikia, AIIMS New Delhi
3) Dr. Ram Bilas Pachori, IIT Indore	13) Dr. Niladri B Puhani, IIT Bhubaneswar
4) Dr. Sriparna Saha, IIT Patna	14) Dr. Hemant K Aggarwal, GE Healthcare
5) Dr. M. Tanveer, IIT Indore	15) Dr. Deepak Misra, IIT Jodhpur
6) Dr. Subrahmanyam Gorthi, IIT Tirupati	16) Dr. Prasad Theeda, Monash University
7) Dr. Debesh Jha, USD, USA	17) Dr. Naveen Paluru, GE Healthcare
8) Dr. Arghya Pal, Monash University	18) Dr. Priya Ranjan Muduli, IIT BHU
9) Dr. Deepti R. Bathula, IIT Ropar	19) Dr. Deepak Ranjan Nayak, MNIT Jaipur
10) Dr. Vinayak Rengan, SMS Jaipur	20) Dr. Subhashis Banerjee, GE Healthcare
Other experts from EICT academies and top industries/labs	

Programme Modules:

Module 1: Introduction to medical imaging: Imaging modalities: X-ray, CT, MRI, endoscopy, computer-aided diagnosis (CAD): history and success stories
Module 2: AI/ML and signal/image processing methods for medical image analysis (MIA) and diagnostics : image enhancement, feature extraction, classification, segmentation, etc.
Module 3: Deep Learning for MIA: 2D CNN, 3D CNN, generative models, ViT and beyond, unsupervised learning, semi-supervised learning, foundation models, learning with limited supervision, federated learning, etc.
Module 4: CAD for MIA Tasks and case studies: Medical image segmentation, image reconstruction, multimodal imaging, case studies (analysis of CT, MRI, X-ray, colonoscopy, retinal, and histopathological images).
Simulation/ Labortary : Python Libraries : TensorFlow, Pytorch, OpenCV

Programme Coordinator:

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Registration:

Registration is open to faculty, working professionals, industry persons, doctoral, postgraduate and graduate students. Participants will be admitted on first-come first-served basis.

Register online at-

[\(http://online.mnit.ac.in/eict/\)](http://online.mnit.ac.in/eict/)



Certification Fee:

From Academia (faculty/Students): Rs. 500/-

Working professionals, Industry, research/technical staff & others: 1500/-

(A) Fee once paid will not be refunded back.

(B) The fee covers online participation in the programme, tutorial notes and examination, certification charges.

(C) The organizers should receive the registration amount through online mode- NEFT/UPI, provided at the registration portal.

(D) Detailed schedule will be shared after receiving registration form.

→ For any other query, email us at fdp.academy@mnit.ac.in , academy@mnit.ac.in