About the Institution

Kongunadu College of Engineering and Technology (KNCET) is an Autonomous, self-financing Engineering College established in the year 2007, Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai, Accredited by NBA(CSE, ECE, EEE & Mech), NAAC, Recognized by UGC with 2(f) & 12(B) and Certified by ISO 9001:2015. The College has 9 UG courses(AD ,AE,BME, Civil, CSE, ECE, EEE, IT and Mechanical Engineering) and 2 PG courses such as Applied Electronics and CSE. ECE and Mechanical departments have been recognized as approved research centers by Anna University. A Separate department Campus to Corporate is to train the students in the area of communication, soft skills and aptitude etc., through which obtaining top notch placements with the facilitation of diverse options in IT industries, core industries, ITES and startup firms respectively. The Kongunadu International Cell assists students explore opportunities to work and study in foreign countries. The college has obtained many awards & recognition from various government/private authorities and received research grants from funding agencies for doing projects, establishing MODROBS labs, organizing FDPs, STTPs, National and International Conferences,Seminars and Workshops. MSME Incubation Center and Unnat Bharat Abhiyan (UBA) schemes are approved by the Government of India. The College has signed MOUs with Industries, academics, hospitals and R&D Institutions. Various Professional societies, clubs and cells are supporting students to become industry ready graduates, to do higher studies and to become successful entrepreneurs. The sports teams have won many prizes in various events at National level including Zonal, Inter Zonal and University level Sports Championship. The College attracts outstanding students by virtue of its discipline, modern infrastructure, library and faculty members.

About the Department

The Department of Information Technology (IT) was established in the year 2007, with an intake of 60 students in it for UG course - B.Tech. IT. The Department is supported by a team of well qualified and highly experienced faculty members and technical staff who deliver their skills to the students through effective teaching-learning environment. The faculty members in the department are specialized in various areas like Wireless Networks, Network Security, Data Science, Cyber Security, Artificial Intelligence, Machine Learning, Image Processing, Cloud Computing, Mobile Computing and Software Engineering.

Address for Communication

Dr.R.Sathya Assistant Professor
Coordinator
FDP on
"Research Advancements in Artificial Intelligence for Medical Applications"
Kongunadu College of Engineering and Technology
Namakkal-Trichy Main Road,
Thottiam,Trichy(Dt)-621 215,
Tamilnadu
Mobile: +91-8012505010
E-mail ID: fdpit@kongunadu.ac.in
URL: **www.kongunadu.ac.in**

Online Faculty Development Programme on

"Research Advancements in Artificial Intelligence for Medical Applications"

07.02.2022 to 11.02.2022

Organized by

Department of Information Technology

KONGUNADU COLLEGE OF ENGINEERING AND TECHNOLOGY
(Autonomous)
Approved by AICTE, New Delhi,
Affiliated to Anna University, Chennai,
Accredited by NAAC with B++ Grade,
Recognized by UGC with 2(f)&12(B),
Accredited by NBA (CSE,ECE,EEE & MECH),
An ISO 9001:2015 certified Institution.
Namakkal-Trichy Main Road,
Thottiam,Trichy(Dt)-621 215,
Tamilnadu.
Website : www.kongunadu.ac.in

DEPARTMENT VISION AND MISSION

Vision

To become an Internationally Renowned Institution in Technical Education, Research and Development by Transforming the Students into Competent Professionals with Leadership Skills and Ethical Values.

Mission

- Providing the Best Resources and Infrastructure.
- Creating Learner-Centric Environment and Continuous Learning.
- Promoting Effective Links with Intellectuals and Industries.
- Enriching Employability and Entrepreneurial Skills.
- Adapting to Changes for Sustainable Development.

About the FDP

Artificial Intelligence (AI) is revolutionizing the medical field by enabling machines to analyze complex medical data, assist in diagnosis, predict disease progression, personalize treatment, and automate routine tasks. Recent research advancements have significantly improved the accuracy, efficiency, and reach of healthcare services, making AI an integral tool in modern medicine. AI models (like deep learning) detect tumors, fractures, and diseases in X-rays, MRIs, and CT scans with near-radiologist-level accuracy. ML algorithms analyze patient history, lifestyle, and genetic data to predict conditions like diabetes, heart disease, and cancer. AI accelerates drug design by predicting molecular behavior and outcomes. AI-powered systems assist surgeons with enhanced precision. Natural Language Processing (NLP) tools help analyze unstructured clinical notes to uncover useful insights. Chatbots and voice-based assistants help with symptom checking, reminders, and patient engagement. AI helps in tailoring treatments based on individual patient profiles and responses.

There is a shortage of professionals with the expertise needed to develop and manage AI-driven cybersecurity systems, limiting their effectiveness. Seamlessly incorporating AI into existing security infrastructures can be complex and may necessitate significant adjustments. As AI technology advances, malicious actors can leverage it to develop more sophisticated attacks, posing new challenges for cybersecurity teams. AI systems can inherit biases from training data, leading to unfair outcomes that may disproportionately affect certain groups.

FDP Objectives

- Explore how AI is transforming diagnosis, treatment, and patient care, and its role in advancing medical technology.
- Understand algorithms such as deep learning, NLP, computer vision, and their applications in analyzing medical data and images.
- Examine breakthrough research, clinical trials, and real-world use cases of AI in medicine (e.g., cancer detection, COVID-19 screening tools, etc.).
- Discuss key issues like data privacy, bias in algorithms, regulatory hurdles, and the need for explainable AI in healthcare.
- Provide hands-on or theoretical knowledge of platforms like TensorFlow, PyTorch, IBM Watson Health, Google DeepMind, and more.
- Promote collaboration between computer science, medical science, and data science for innovative AI-based healthcare solutions.
- Discuss ethics in AI (e.g., patient consent, data usage), as well as legal frameworks and policies guiding medical AI research.

Course Contents

- Introduction to Artificial Intelligence
- Introduction to machine learning and its challenges
- Machine Learning Algorithms in Medical Diagnostics
- AI in Predictive Healthcare and Personalized Medicine
- Smart healthcare devices for real-time data analysis
- Deep Learning Architectures in Medical Image Analysis
- Deep learning models for early disease detection
- AI in Drug Discovery and Development
- Future Trends and Challenges in AI for Healthcare

Resource Persons:

The resource persons for the program shall include faculty members of the NIT, Host institute, Industry experienced and skilled experts from reputed organizations/industries.

Eligibility:

Faculty members of the AICTE approved institutions, Research scholars, PG Scholars, participants from Government, Industry Bureaucrats/Technicians/ Professionals/School Teachers and staff of host institutions.

Registration Procedure:

Candidates will be informed about their registration status via email and will receive a confirmation email upon successful registration. A digital certificate will be issued to all candidates who achieve a minimum of 80% attendance.