



**NARASARAOPETA ENGINEERING COLLEGE (AUTONOMOUS)**  
**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**2024-2025**

<b>Batch Number</b>	AG-08
<b>Team Members</b>	S.Bhavani (21471A0552) K.Deepika (21471A0518) K.Tejaswini(21471A0530)
<b>Guide</b>	Yamini.Chandana <sub>Asst.Prof</sub>
<b>Title</b>	Towards High-Throughput Medical Image Analysis with Quantum Image Processing
<b>Domain/Technology</b>	DEEP LEARNING
<b>Base Paper Link</b>	<a href="https://ieeexplore.ieee.org/document/10430201">https://ieeexplore.ieee.org/document/10430201</a>
<b>Dataset Link</b>	<a href="https://www.kaggle.com/datasets/raddar/chest-xrays-indiana-university">https://www.kaggle.com/datasets/raddar/chest-xrays-indiana-university</a>
<b>Software Requirements</b>	Browser: Any latest browser like Chrome Operating System: Windows 7 Server or later Python (COLAB)
<b>Hardware Requirements</b>	SystemType: Intel Core i5 or above RAM: 8 GB Number of cores:5 Number of Threads: 4
<b>Abstract</b>	An automatic radiology report generation system is introduced with integrated image enhancement methods and a transformer model. Histogram Equalization, CLAHE, Exposure Fusion, and Gamma Correction method of image enhancement was used to enhance the image quality of chest X-ray images. For cleaning text data, Word deconstruction, Character deletion followed by Lowercase conversion were done, then only BERT embeddings were applied considering contextual meaning. The model, trained on 9199 chest X-ray images, and 3973 medical reports incorporated the Multi-Head Attention to make the reports more coherent and relevant, provided better facilities for diagnosing and minimizing the efficiency time of the radiologists.

**Signature of the student(s)**

**Signature of the Guide**

**Signature of the project coordinator**