NARASARAOPETA ENGINEERING COLLEGE (AUTONOMOUS)
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
2024-2025

Batch Number	BG-8
Team Members	A.Manvitha (21471A0572) D.Naga Revathi (21471A0581) K.Prathima (21471A0595)
Guide	Dr. Sireesha Moturi M.Tech,Ph.D
Title	Enhanced Lung Cancer Detection Using Deep Learning Ensemble Approach
Domain/Technology	DEEP LEARNING
Base Paper Link	https://www.nature.com/articles/s41598-023-29656-z
Dataset Link	https://zenodo.org/records/3723295
Software Requirements	Browser: Any latest browser like Chrome Operating System: Windows 7 Server or later Python (COLAB)
Hardware Requirements	SystemType: Intel Core i5 or above RAM: 8 GB Number of cores:5 Number of Threads: 8
Abstract	In emerging technologies, deep learning has become the solution for most real-world problems. This is used by integrating with computer science and predicting many diseases for people at an early stage. One of the major issues is the detection of Lung Cancer either Cancerous or Non-Cancerous. Many studies have proposed the solutions to detect the Lung Nodule. However, using an ensemble approach by taking CT(Computed Tomography) Scan images gives accurate results when compared to other methodologies. In this study, we proposed the methodology by combining three deep learning models instead of one. Thereby, the performance of three CNN models is combined to get accurate results. The dataset used for this is LUNA16 from Grand Challenge which is available online. This dataset consists of CT scans and an annotations file which gives the information about each CT Scan. Our Ensemble 2D CNN model gave an effectiveness of 96% which is greater than the baseline methodology.

Signature of the student(s) **Signature of the Guide** **Signature of the project coordinator**