NARASARAOPETA ENGINEERING COLLEGE (AUTONOMOUS)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

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Batch Number	DB-7
Team Members	B. Aravind babu (21471A05L9) S. Vineeth (22475A0513) R. Vivek (21471A05P8)
Guide	Dodda Venkata Reddy M.Tech
Title	Enhanced Chronic Kidney Disease Detection Via Eurygasters Optimization and Ensemble Learing
Domain/Technology	DEEP LEARNING
Base Paper Link	https://www.sciencedirect.com/science/article/pii/S1110016824004800
Dataset Link	https://archive.ics.uci.edu/dataset/336/chronic+jidney+disease
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: 4
Abstract	Early diagnosis of Chronic Kidney Disease (CKD) is vital for improving patient outcomes and reducing associated health risks. This study presents the Eurygasters Optimization Algorithm with Ensemble Deep Learning for CKD Detection (EOAEDL-CKDD) framework, which integrates feature selection, ensemble deep learning, and hyperparameter optimization. Key steps include min-max normalization for data preprocessing and feature selection using the Eurygasters Optimization Algorithm (EOA) to identify relevant features while minimizing redundancy. The framework employs an ensemble of Long Short-Term Memory (LSTM), Bidirectional LSTM (BiLSTM), and Bidirectional Gated Recurrent Unit (BiGRU) models for robust classification, enhanced by hyperparameter tuning with the Shuffled Frog Leap Algorithm (SFLA). Empirical results on benchmark datasets demonstrate superior accuracy, precision, and recall compared to traditional methods, highlighting its potential for integration into healthcare systems for proactive CKD management.

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