II Semester	NATURAL LANGUAGE PROCESSING LAB (D252BA05)	L	T	P	C
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Pre-requisites: Data Base Management Systems, Python Programming

COURSEOUTCOMES: On completion of this course, the student will be able to

- Design Neural networks to solve real world problems
- Build RNN,CNN models for classification
- Choose appropriate pre-trained model to solve real time problem
- Apply different NLP techniques using NLTK package.
- Design solutions to real-world problems using NLP

Software Packages Required:

- Keras
- Tensorflow
- PyTorch
- NLTK

UNIT	CONTENTS	Contact Hours
Experiment–1	Implement Multilayer Perceptron algorithm for MNIST Handwritten Digit Classification.	10Hrs
Experiment–2	Design Neural Network for following problems i). Movie reviews classification(Binary Classification)using IMDB dataset. ii). News Wires classification(Multiclass Classification) using Reuters dataset.	12Hrs
Experiment–3	Implement a Recurrent Neural Network(RNN) and LSTM for IMDB Movie review classification problem	12Hrs

Dr.N.Rama Krishnaiah, Professor of CSE,UCEK & Control of Examination JNTUK, kakinada.	Dr.C.Krishna Mohan, Professor of CSE,IIT, Kandi, Hyderabad.	Dr.P.Radha Krishna, Professor of CWQSE,NIT, Warangal	Mr.Rajesh Bobburi Chief Operating Officer, HighQ Labs Private Limited, Rajahmundry	Dr.Lakshmi Haritha Medida, Associate Professor, R.M.K.Engineering College,Kavaraipettai,Tamilnadu	Dr.K.Srinivas, Professor & HoD Department of CSE, B.V.C.I.T.S, Batlapalem

Experiment–4	Build a Convolution Neural Network for simple image(dogs and Cats) Classification	
Experiment–5	Use a Pre-trained Convolution Neural Network LeNet, AlexNet for image classification	12Hrs
Experiment–6	Implement One Hot Encoding and Word Embedding son any real World dataset	12Hrs
Experiment–7	Create Sample list atleast 10words POS tagging and find the POS for Any given word	
Experiment–8	Write a Python program to i).Perform Morphological Analysis using NLTK library ii)Generate n-grams using NLTK N-Grams library iii).Implement N-Grams Smoothing	
Experiment–9	Write a program to implement Named Entity Recognition(NER)for any corpus	
Experiment–10	Using NLTK package to convert audio file to text and text file to audio files	
Experiment–11	Write a program to perform Auto-Correction of spellings for any text	
Experiment–12	Implement twitter sentiment analysis using NLP.	
	Total	58Hrs

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