School of Computer Science Engineering and Technology

Course- BTech
Course Code- CSET225L

Year- 2022
Date- 12th September 2022

Type- Specialization Core
Course Name- Intelligent Model Design using AI
Semester- Odd
Batch- ALL

Lab Assignment 4.1 – Keras Tuner based neural architecture search

Objective- The objective of the lab is to understand implementation of the hyperparameter optimization using PSO (Population based technique under swarm optimization)

		CO1	CO2	CO3
Lab 4.1	**Keras Tuner based neural architecture search**		√	√

Task to DO

- Understand the given example of keras tuner
- Use Keras tuner for finding best Activation function["relu", "tanh"], learning_rate(0.1, 0.0001), Dropout(0.5, 0.1), Number of layers(2, 10), Use Hyperband tuner search strategy instead of random search (1.5 Marks)
- Compare PSO method with keras tuner in terms of number exploration time and quality of solution i.e. validation accuracy of final solution (1.5 Marks)

iPython Notebook – Use the following notebook to

https://colab.research.google.com/drive/1yjnp36rGOYQrDwA8RyWCZJ1JSWBRFjIS?usp=sharing

Fun activity

- Explore AutoML from Google
- Explore Reinforcement based network architecture search