

### Skill Development:

The AI & BDA lab is aimed at equipping the clients with the following skill sets

- › Keras
- › Tensor flow
- › Collaborative filtering
- › Recommender Systems
- › Data Mining
- › Classification
- › Support Vector Machines
- › K means Clustering
- › Hierarchical Clustering
- › K Nearest Neighborhood
- › Decision trees
- › Random Forests
- › Ensemble Learning
- › Neural Networks
- › Fuzzy Expert System
- › Database Management
- › Data analytics
- › Exploratory Data Analytics
- › Text analytics
- › Image analytics
- › Spatial analytics

### Expected Outcome:

- › Developing innovative courses
- › Better job opportunities
- › E-Resources in AI & BDA
- › Case studies in AI & BDA
- › Patents/ copyrights

### Scientist In-Charge:

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TAMIL NADU AGRICULTURAL  
UNIVERSITY

TNAU - IDP - NAHEP - ICAR

ARTIFICIAL INTELLIGENCE

&

BIG DATA ANALYTICS



AI & BIG DATA LAB

Department of Agricultural Economics  
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Tamil Nadu Agricultural University  
Coimbatore - 61 003

**AI & BDA Lab:**



The Artificial Intelligence and Big Data Analytics (AI & BDA) Lab is established at the Department of Agricultural Economics, Directorate of Center for Agricultural and Rural Development Studies, Tamil Nadu Agricultural University, Coimbatore in 2021. It is an unique facility to impart skill sets to the students, to carry out collaborative research and teaching innovative courses in the fields of artificial intelligence, machine learning and big data analytics in the field of food and agriculture.

The AI & BDA lab is funded by the Indian Council of Agricultural Research (ICAR) – National Agricultural Higher Education Project (NAHEP) under Institutional Development Plan (IDP) implemented by the Directorate of Agri-Business Development, TNAU, Coimbatore



**Objectives:**



The major objectives of AI & BDA lab are to design and conduct courses in artificial intelligence, machine learning and big data analytics to the graduate students; to carry out collaborative research with the food and agro-industries and to offer consultancy services to the clients.



**Clients:**



The major beneficiaries of the AI & BDA Lab are the farm graduates, research scholars, scientists, academicians and agro-industries who desire to develop their capabilities in the application of data science for providing solutions to emerging issues in food and agriculture sector.

**Features**



The AI & BDA lab is equipped with high configuration Apple Mac server and client nodes for execution of Big Data Analytics with Oracle Technologies and high speed internet connectivity with better firewall security.



**Course Modules to be offered:**

**Foundation**

**Module 1**

- ☆ Introduction to AI & BDA concepts
- ☆ Role of AI in Agriculture
- ☆ Need for Python
- ☆ Revision of Statistical Concepts

**Machine Learning**

**Module 2**

- ☆ Supervised Learning
- ☆ Unsupervised Learning
- ☆ Ensemble Techniques

**Artificial Intelligence**

**Module 3**

- ☆ Neural Networks
- ☆ Computer Vision
- ☆ Natural Language Processing

**Big Data Applications**

**Module 4**

- ☆ Big Data
- ☆ Hadoop Ecosystem
- ☆ MapReduce
- ☆ Case studies

**Data Mining**

**Module 5**

- ☆ Data Extraction
- ☆ Data Integration
- ☆ Data Visualization
- ☆ Data Security

