

## National Institute of Electronics & Information Technology Near IIT Patna, Amhara, Bihta, Patna(Bihar) -801106

## **Details of the Course**

## Name of The Course: Industrial Training & Internship in Artificial Intelligence (AI)

Duration (in Hrs.): 40 Fee (in Rs.): Rs 1983/-

**Eligibility:** Diploma/B.Sc./B.Tech/ In Electronics, Electrical, Instrumentation Engineering, Computer Science, IT or its equivalent/BCA/MCA. (Completed or

pursuing).

## **Course Content:**

| Sl  | Topic                                 | Subtopic                             | Duration (in |
|-----|---------------------------------------|--------------------------------------|--------------|
| .No |                                       |                                      | Hrs)         |
| 1   | Fundamentals of AI & Machine Learning | Introduction to machine learning and | 10           |
|     |                                       | AI, The Necessity of Learning AI,    |              |
|     |                                       | Learning What's Involved in AI,      |              |
|     |                                       | Goals and applications of AI.        |              |
| 2   | Machine learning                      | Data Preparation, Dataset, Data      | 10           |
|     |                                       | Preprocessing, Outlier detection,    |              |
|     |                                       | Missing value imputation, Encoding,  |              |
|     |                                       | Categorical Data, Splitting Data,    |              |
|     |                                       | Feature scaling Introduction to      |              |
|     |                                       | Supervised Learning, Unsupervised    |              |
|     |                                       | learning, , Regression and           |              |
|     |                                       | Classification, Regression           |              |
|     |                                       | Algorithms Simple Linear             |              |
|     |                                       | Regression, Decision Tree,           |              |
|     |                                       | Classification Algorithms, Logistic  |              |
|     |                                       | Regression, KNN, Clustering          |              |
| 3   | Deep Learning                         | Neurons, Neural Networks,            | 10           |
|     |                                       | Activation Functions & their Types,  |              |
|     |                                       | Gradient Descent, Backpropagation,   |              |
|     |                                       | Artificial neural networks,          |              |
|     |                                       | Convolutional Neural Networks,       |              |
|     |                                       | Image classification, Text           |              |
|     |                                       | classification                       |              |
| 4   | Computer Vision                       | Computer Vision, Installing          | 10           |
|     |                                       | Useful Packages, OpenCV, Reading,    |              |
|     |                                       | Writing, and Displaying an Image,    |              |
|     |                                       | Preprocessing and Image analysis,    |              |
|     |                                       | Colour Space Conversion, Image       |              |
|     |                                       | Thresholding, Object Detection,      |              |
|     |                                       | Image Segmentation, Face Detection,  |              |
|     |                                       | Eye Detection, Deep Learning for     |              |
|     |                                       | computer vision, YOLO                |              |