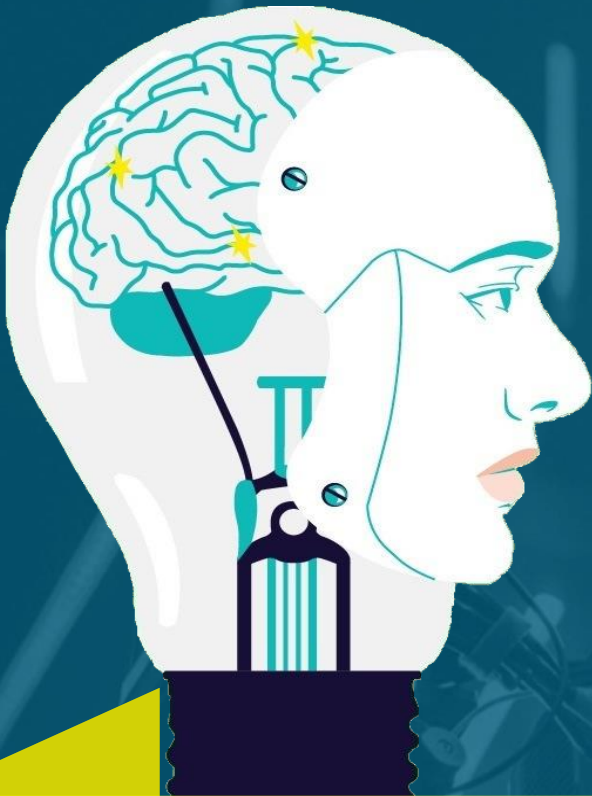Your learning journey From knowledge-based learning to skill-based learning with a professional structured curriculum

Summer Internship & Training on

Advance ML & Deep Learning

ElectroCloud Labs

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ElectroCloud Labs

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Introduction

Starting its journey from 2012, ElectroCloud is a dynamic Learning and Development service providing company and it is currently a gargantuan repository of more than 200 courses from various fields and has served more than 5000+ clients across the world.

At TechTrunk Ventures, we have collaborated with the topmost colleges, industries, and universities to design paid/funded one time courses, specializations which consist of :

lecture videos   reading materials   online graded quizzes   graded assignments
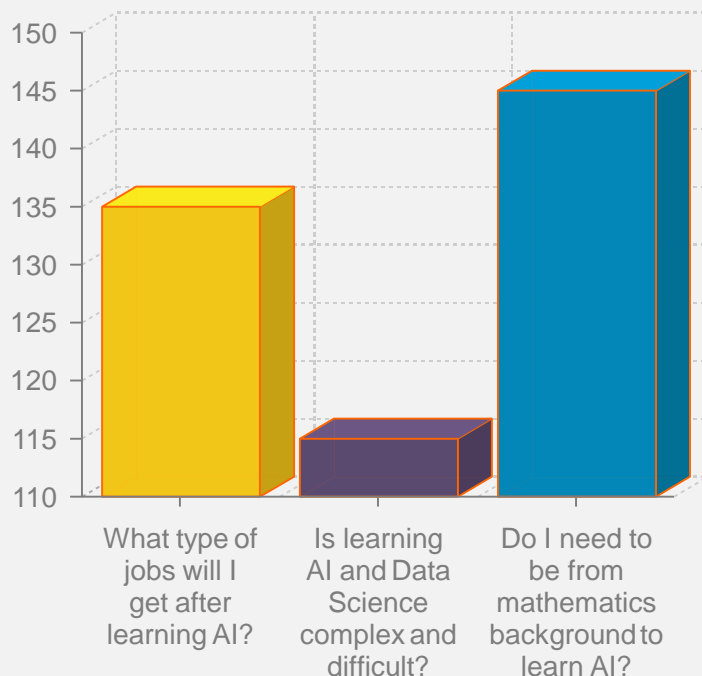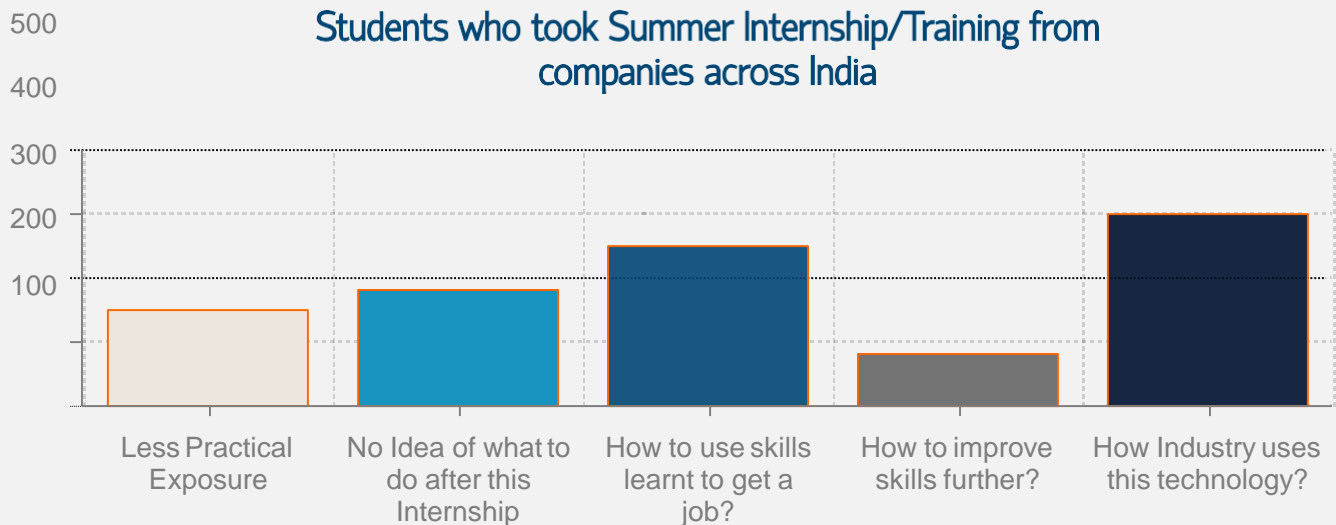
❝

At ElectroCLoud, we promise updated, quality content that will help learners all over the world to add new skills and enrich their knowledge.

Anshu Pandey

CTO

The Problem

The problems faced by students during summer internships
(Based on survey from 5000+ students across India)

Students who took Summer Internship/Training from companies across India

500				
400				
300				
200				
100				

Less Practical Exposure | No Idea of what to do after this Internship | How to use skills learnt to get a job? | How to improve skills further? | How Industry uses this technology?
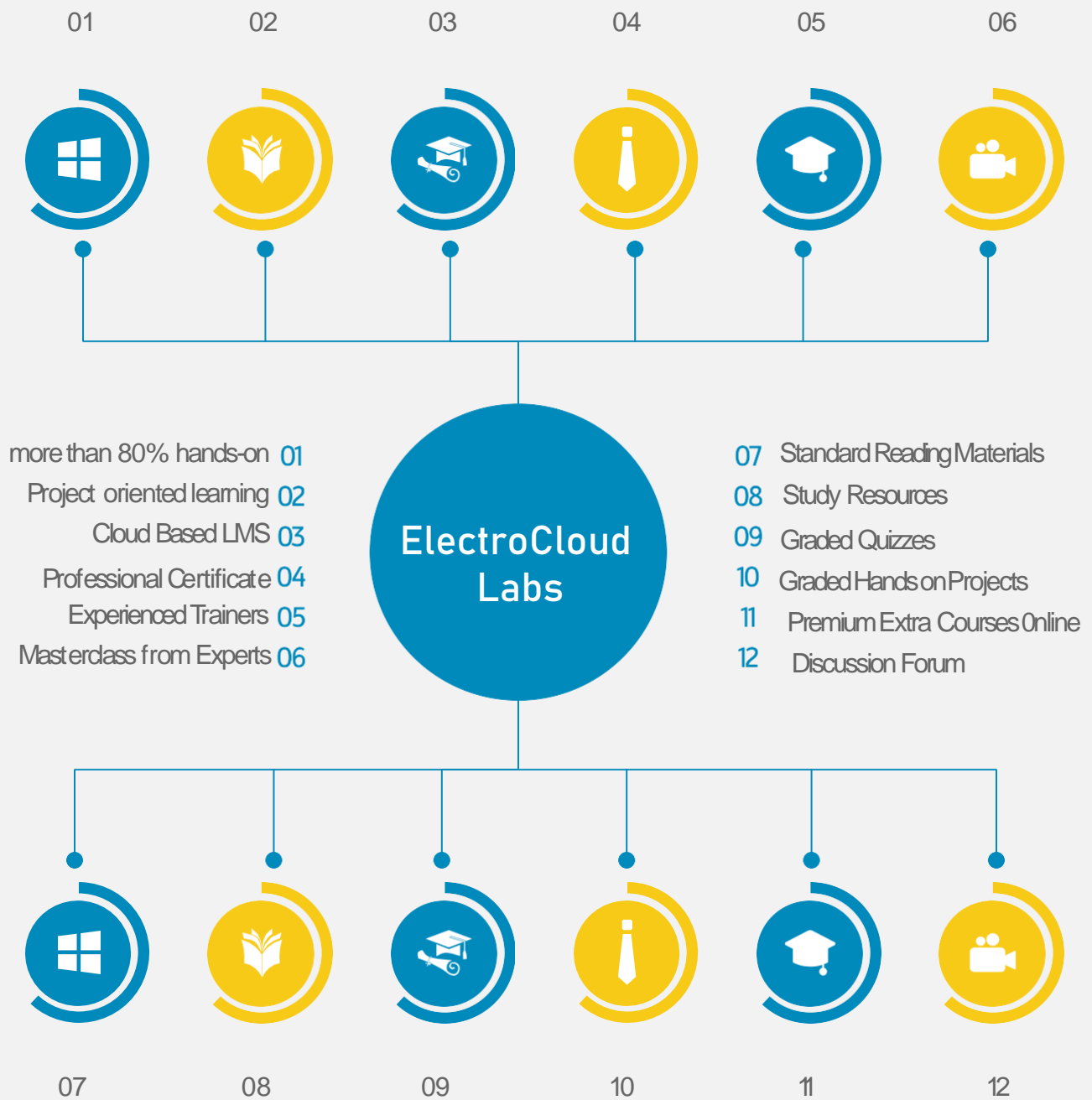
Analysis from students attending Summer Internship across India from different companies.

At electrocloud labs we have collaborated with the top most Industrial and Learning Experts to design optimized structure of Summer Internship & Training.

What type of jobs will I get after learning AI? | Is learning AI and Data Science complex and difficult? | Do I need to be from mathematics background to learn AI?

The Solution

Our Goal: Taking out the stumbling rock and providing a clear path to learners

01   02   03   04   05   06

ElectroCloud Labs

more than 80% hands-on   01
Project oriented learning   02
Cloud Based LMS   03
Professional Certificate   04
Experienced Trainers   05
Masterclass from Experts   06

07   Standard Reading Materials
08   Study Resources
09   Graded Quizzes
10   Graded Hands on Projects
11   Premium Extra Courses Online
12   Discussion Forum

07   08   09   10   11   12

Us VS **Other providers**

₹7,000   **Average Course Fee**   ₹20,000

(25-30 Days Internship + Training)

✓ Online Premium Courses ✗

✓ Continuous Learning Assessment ✗

✓ Masterclass from Experts ✗

Table of content for Summer Internship and Training on Advanced Machine Learning and Deep Learning

Module 1
Overview of AI, ML & Deep Learning

Overview of AI, ML and Deep Learning

- Artificial Intelligence & Machine Learning Introduction
- AI v/s ML v/s DL and Data Science
- Supervised & Unsupervised Learning
- Reinforcement Learning
- Deep Learning Introduction
- Deep Learning v/s Machine Learning
- GPU for Deep Learning
- Applications of Deep Learning
- Algorithms and use cases in Deep Learning
- Getting started with Images
- Image Processing with OpenCV
- Image Acquisition and manipulation using OpenCV
- Video Processing
- Edge Detection
- Corner Detection
- Color Detection
- Face Detection
- Image Scaling for ANN
- Face Detection in an image frame
- Object detection

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Module 2
Tensorflow & Pytorch

Working with Tensorflow
- Introduction to TensorFlow &keras The
- Programming Model
- Data Model, Tensor Board
- Working with constants, variables and placeholders
- Linear Regression using Tensorflow
- Logistic Regression using Tensorflow
- Tensorflow low level APIs
- Data manipulation using Tensorflow
- Working with Pytorch
- Basics of Pytorch
- Porgamming model of Pytorch
- Building Linear Regression and Logistic Regression with Pytorch
- Examples and use cases

The Content

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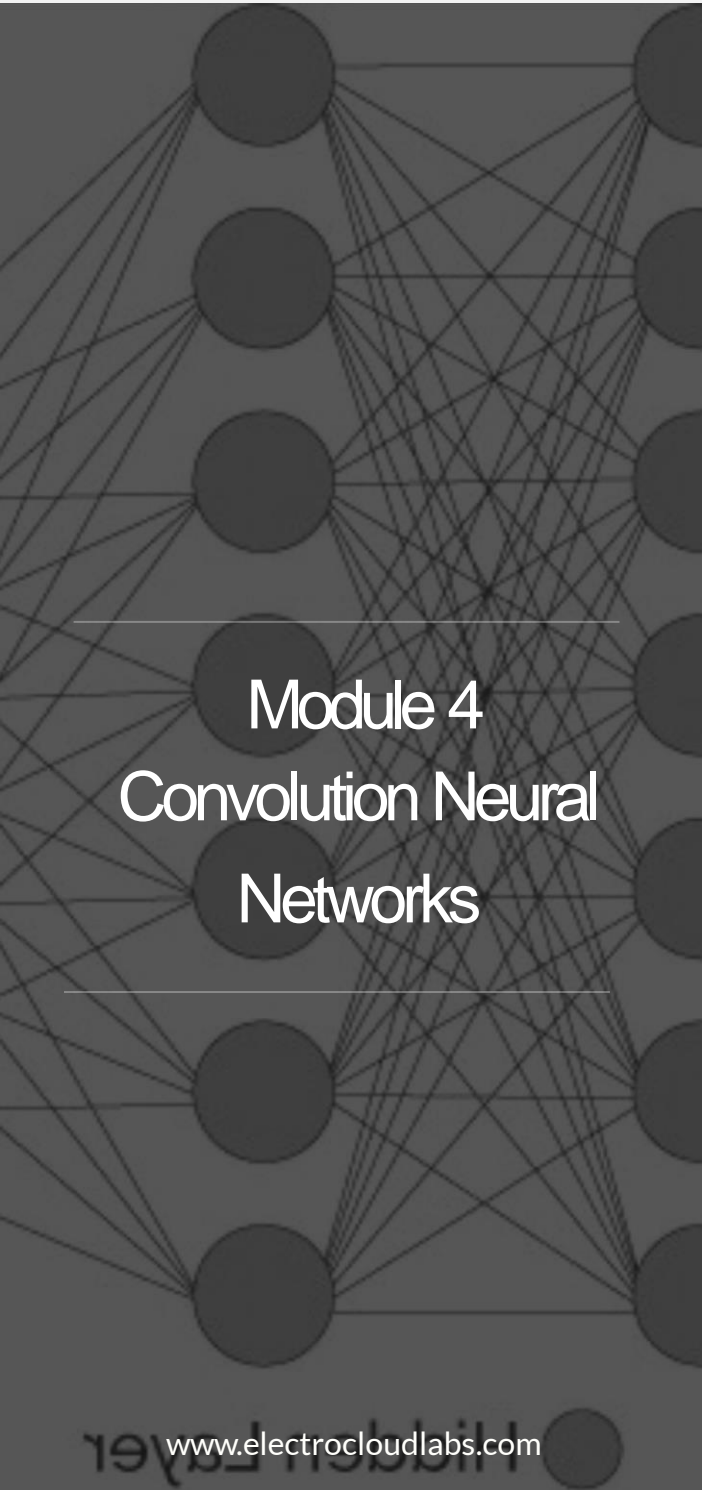
Module 3
Neural Networks

Artificial Neural Networks
- Introduction to Neural Networks
- Working of Neural Networks
- Mathematical modelling of Neural Networks
- Architectures of ANN
- ANN learning process
- Gradient Descent Algorithm
- Cost Function formation
- Python programming example
- Softmax Classifier & ReLU Classifier
- Dropout Optimization
- Back propagation Neural networks with Tensorlfow
- Mathematics behind backpropagation
- Deep Neural Networks using Tensorflow
- Activation Functions for Neural Networks
- Optimization Techniques – SGD, ADAM, LBFGS
- Controlling Overfitting
- Regularization
- Momentum in Neural Networks
- Neural Network Tuning and Performance Optimization

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Module 4
Convolution Neural
Networks

Convolution Neural Networks
- Convolutional Neural Networks
- CNN Architecture
- The Neuroscientific Basis for Convolutional Networks
- Convolution Process
- MaxPooling, dropout
- Maths behind CNNs
- Feature Extraction
- Variants of the Basic Convolution Function
- Efficient Convolution Algorithms
- Variety of Convolutional Networks
- Implementing CNNs using Keras
- MNIST Data – Digit Classification using CNN
- Fashion Product Identification using CNN
- CNN implementation example using Pytorch

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Module 5
Transfer Learning
for Computer Vision

Transfer Learning for Computer Vision

- Understanding the concept of Transfer Learning
- Ideas for transfer learning approach for different situations
- Overview of imagenet datasets and pre-trained models - VGG16, VGG19, ResNet50, MobileNet
- Implementing Transfer Learning-based Image Classifier using ResNet50
- Optimizing Transfer Learning-based models
- Using other pre-trained models from Tensorflow hub for Computer Vision applications
- Video Processing using Neural Networks

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Module 6
RNN & LSTM

RNN and LSTM

- Recurrent Neural Networks
- Basic concepts of RNN
- Unfolding Recurrent Neural Networks The
- Vanishing Gradient Problem
- The Exploding Gradient Problem
- LSTM Networks
- Understanding of LSTM
- Erase Gate, Input Gate and Read Gate
- Overview of GRU
- Case study
- Basic Time Series Forecasting using LSTM
- Implementing LSTM using Tensorflow-keras
- implementing LSTM using Pytorch
- Airlines Passenger Volume Prediction using LSTM

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Module 7
Transfer Learning
for NLP

Transfer Learning for NLP

- Understanding the concept of Transfer Learning for NLP
- General issues with NLP problems
- Ideas for transfer learning approach for different situations in case of NLP
- Using Universal Sentence Encoders
- Deep Averaging Networks
- Sequence to Sequence Models
- Encoder and Decoder Understanding
- Attention-based models
- Transformer Models - Self Attention models
- Using ELMo for word vectorization
- Working of BERT
- Working of GPT-2
- Working of XLNet
- Using BERT, GPT-2, XLNet for text classification

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Project Work
- Working Final Project
- Splitting final Project into phases
- Working on structuring porject
- Do's and Don'ts with Machine Learning
- Productization of Machine Learning Application

Module 8
Project

Conclusion

Curiosity is a force, a force that drives us towards the path of exploring new things. At times, when we stumble on the path, we draw back from our quest and this is a scenario where hundreds of students all over the globe lose their will to learn a particular skill when they do not find the right resource. We at TechTrunk spend thousands of hours & work with experts from Industry to design qualitative courses to make the right learning opportunity available to students.

Team ElectroCloud is working their   best to provide help to every learning enthusiast out there so   that they can achieve their goals and make good use of what exists in technological world.

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Apply online

Choose your Internship

Pay registration amount

Your journey begins