

Machine Learning for Electrical Engineers using Python



SKILL  **LYNC**



Who are we?

Skill-Lync is an engineering e-learning platform based in Chennai. The brainchild of two engineers, we are at the forefront of re-shaping engineering education in India. In the winter of 2019, we became the first start-up from Chennai to be funded by Y-Combinator.

Today, close to 8000+ students from over 58 countries study at Skill-Lync. Over three years we have helped 280 engineers achieve their dream careers.

58+

Countries

8000+

Students

300+

Placements

30000+

Projects



About the program

Machine Learning and Artificial Intelligence is a booming field. Machine learning gives the ability to machine to learn and behave in a particular manner without being explicitly programmed and learn from their experience with the help of data. You will see the application of machine learning and Artificial intelligence everywhere whether you talk about product recommendation by Amazon, Flipkart, etc. or movie recommendation by Youtube, Netflix, etc. You can also see the applications of Machine Learning and Artificial Intelligence in customer segmentation, fraud detection, google map, Facebook auto-tagging, spam email detection, etc. This is all done by data engineers and data scientists sitting at the workplace.

Reasons to select this course

- Designed by Skill-Lync with inputs from academicians and industry experts to ensure that students are trained in the skills expected in the industry.
- The field of artificial intelligence has a tremendous career outlook with high pay, a growing number of intriguing sub-fields and the ability to work with life-changing technology on a daily basis.
- Python is used by a lot of industries like thermodynamics and CFD, Numerical Analysis and Data Science
- Completing a Skill-Lync's course on Machine Learning for Electrical Engineers using Python is among the few tools in your resume that can instantly boost your chances of getting employed.



Modules

Introduction to data science and programming languages (tools) for data science

Introduction about data science and big data and its importance and will introduce various programming languages (tools) used for data science.

Basics of programming

Explanation about variables, operators, data types, data structure, control structure in Python, Function file in Python.

Essential Python libraries

Include Numpy, Scipy, Pandas, Matplotlib, Seaborn, etc.

Introduction to machine learning Cross-validation and bias variance tradeoff

This module will include basics of machine learning and its classification and include fitting of models with cross validation and bias variance trade off.

Evaluation metrics

Evaluation metrics for model validation

Importing data and hands on imported data

EDA/ correlation/ feature extraction/ hyper parameters

Univariate and multivariate linear regression

This module will introduce univariate and multivariate linear regression and will explain how it can be implemented in Python

Principal component analysis

Explanation about Eigenvalues and Eigenvectors and singular value decomposition and then PCA.

Logistic regression and k-nearest neighbor

Explanation about Eigenvalues and Eigenvectors and singular value decomposition and then PCA.

Decision tree and Random forest

Explanation and implementation of Decision tree and Random forest in Python

K-mean and Hierarchical clustering

Clustering of data using clustering algorithm

Neural network

Explanation of logistic regression with neural network mindsets



Industry-Specific Projects

Project 1

"EarlySalary" a stock forecasting company has employed you as a Data Scientist. As a first job, the manager has provided you with stock market data and asked you to check the quality of data. There are two files "Stock_File_1.csv" and "Stock_File_2.txt". Some details of the data shared with you are (a) The data set consists of six variables namely-date, Open, High, Low, Close, Volume (b) The stock market opens at 9:15 am and closes at 3:30 pm. Each stock is defined by an opening price and closing price i.e. the price at which it opens and the price at which it closes. During the operating regime, the stock prices touch maximum and minimum price. You have access to tens of years of monthly stock price data with the open, high, low, close and the volume that signifies the number of stocks traded. On some days there is no trading, the open, high, low, close remains constant and the volume is zero. Now, you go to your manager after data visualization and exploratory analysis and model building (do not build a model, assume you built it for sake), your manager says the model predictions are poor as the data is polluted (reported by manager that that instant). Now try to impress your boss by doing some data preprocessing. Assume that you fill missing values by mean of the data corresponding to each feature. Remember: please merge the data before preprocessing. You can use pandas.concat (read) to merge your data.

Project 2

"Sandman" is willing to do some manufacturing analytics for their manufacturing plant. Description: The datasets consist of 13 variables and 388 samples. The table below gives the description of the data.

Sandman corporation continuously looks to improve its manufacturing quality. Sandman monitors quality of input materials (physical and chemical properties) on a daily basis. Also, it monitors quality of output material for every batch and output rejection rates are available on daily basis. Sandman wishes to develop a early warning system (EWS) to predict likely rejection for the new day, given the input quality for that day. They hired you to develop EWS. Put all the knowledge gathered in the course to achieve your objective.

Should you take this course?

- Students in Electrical Engineering
- Freshers looking to gain project experience on Machine Learning & Artificial Intelligence

Software covered



The software that will be used as a part of this course is Python and a compiler for Python, sublime text. Python finds widespread use in the industries ranging from Data Analysis for simulations to automation where mundane tasks can be automated to save time.



Basic

2 Months Access

₹7000[Enroll Now](#)

Per month for 3 months

- Access Duration : 2 months
- Mode of Delivery : Online
- Project Portfolio : Available
- Certification : Available
- Email Support : Available
- Whatsapp Support : Available

Pro

4 Months Access

₹10000[Enroll Now](#)

Per month for 3 months

- Access Duration : 2 months
- Mode of Delivery : Online
- Project Portfolio : Available
- Certification : Available
- Individual Video Support : 4 month
- Group Video Support : Available
- Email Support : Available
- Whatsapp Support : Available
- Telephone Support : Available
- Add-ons Industry Projects : 1

Premium

Lifetime Access

₹15000[Enroll Now](#)

Per month for 3 months

- Access Duration : 2 months
- Mode of Delivery : Online
- Project Portfolio : Available
- Certification : Available
- Individual Video Support : 12/month
- Group Video Support : 12/month
- Email Support : Available
- Whatsapp Support : Available
- Telephone Support : Available
- Add-ons Industry Projects : 2
- Dedicated Support Engineer : Available

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