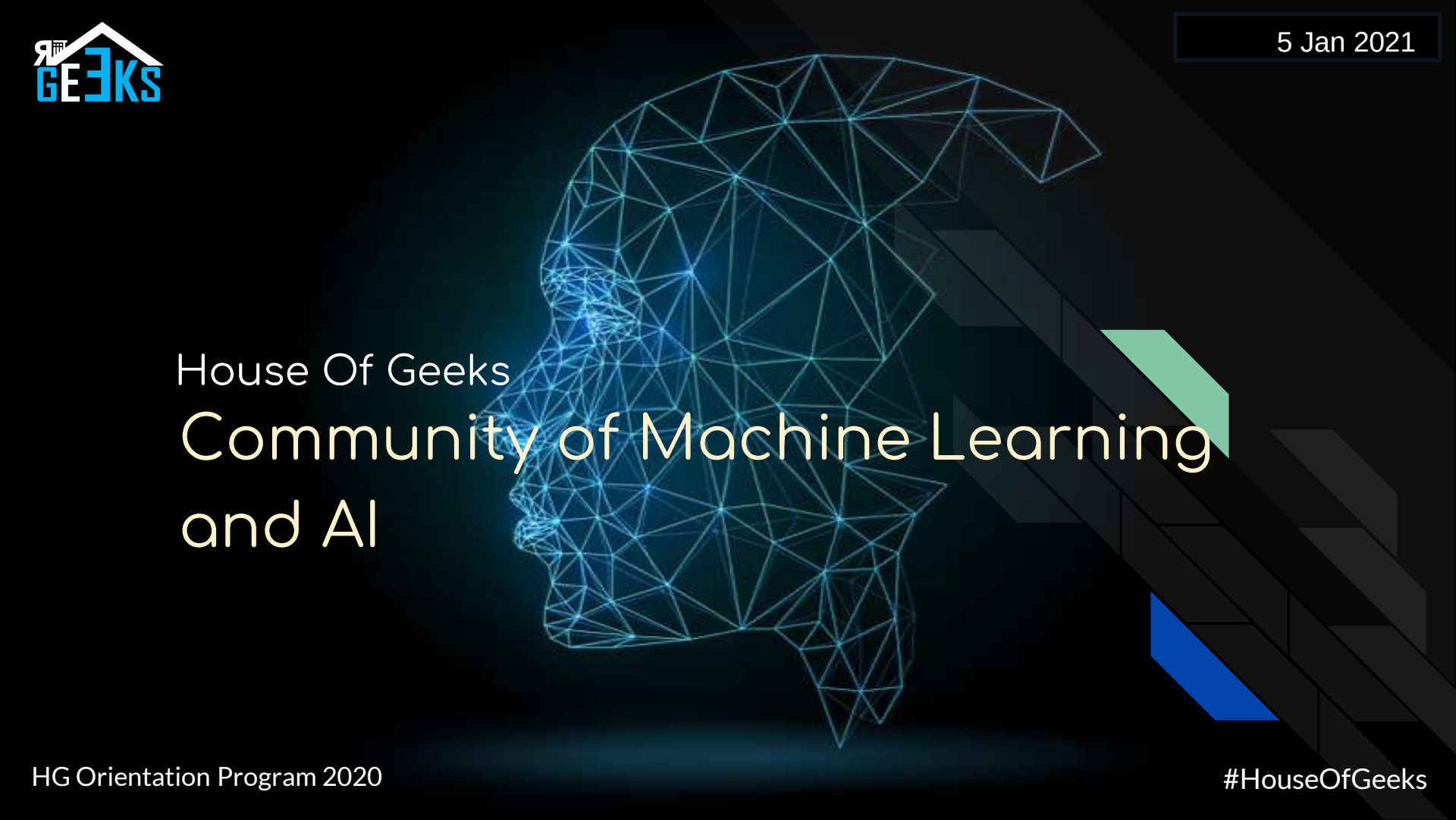
5 Jan 2021



House Of Geeks

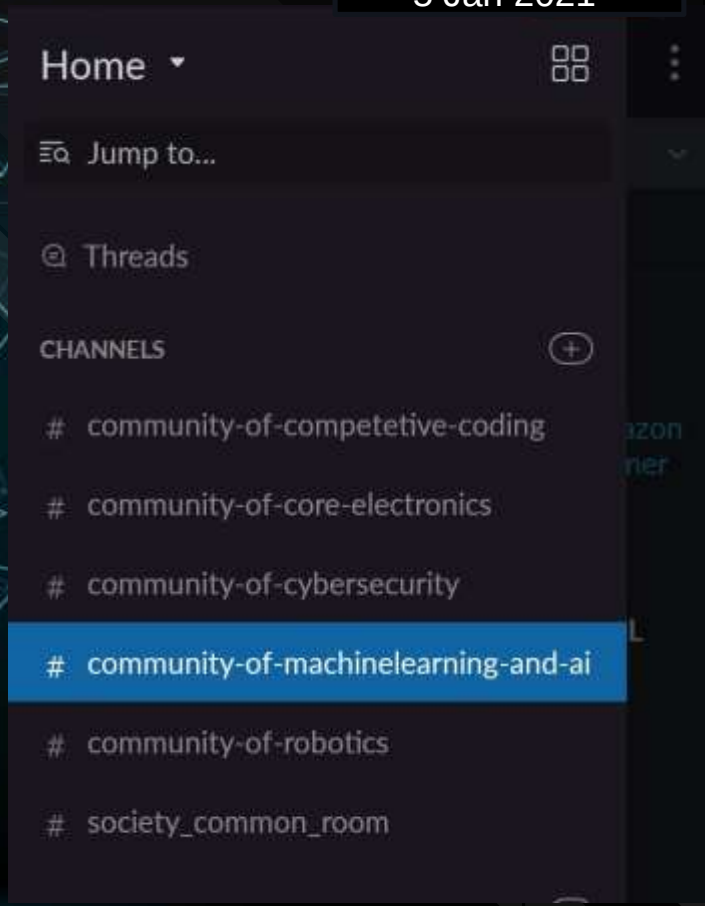
Community of Machine Learning and AI

HG Orientation Program 2020

#HouseOfGeeks

Aim

- Promote ML and AI culture in institute
- Organising Workshop
- Have a discussion
- Help students to prepare projects on AI and ML
- Spreading awareness about various competitions like Kaggle and many more



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Sarthak Srivastava

Community Head

Vishal Pratap Singh

Community Co-ordinator

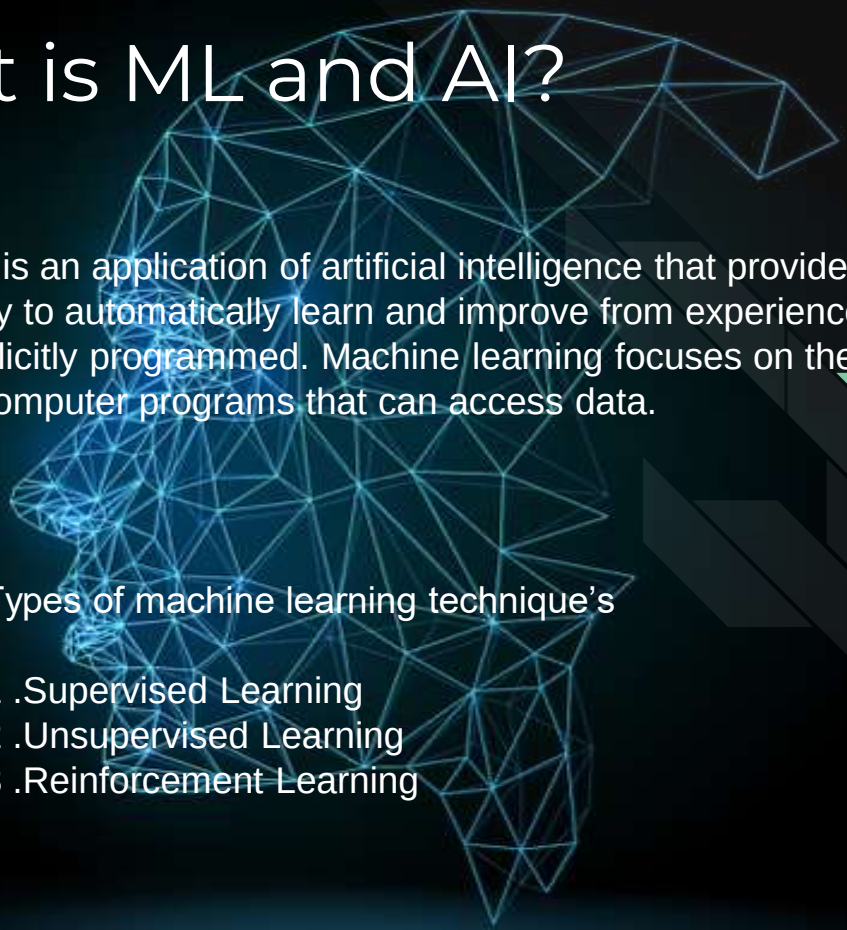
How community works

Our Community Head organises events and workshops in our college, along with guest lectures of the best professors from this field. so as we can enhance our views and perspectives in this field.

Our Community Coordinator-coordinates with the members of this society and provides helpful resources.

Our community organizes quizzes, Competitions and some Q & A sessions which enhances your knowledge and there will be prizes too.

What is ML and AI?

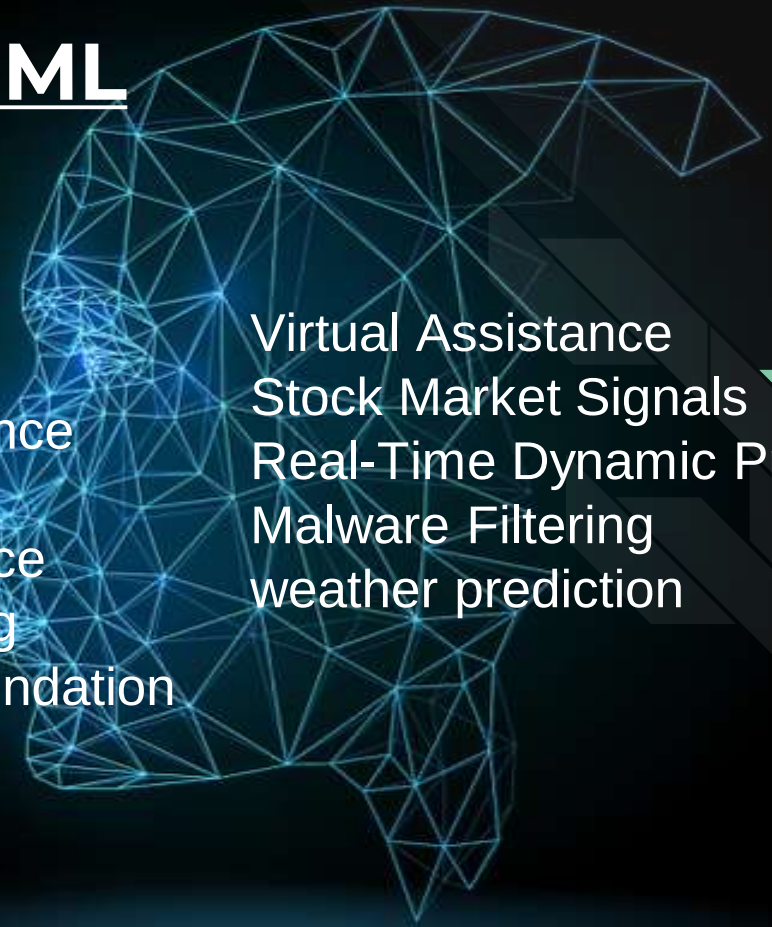


Machine learning is an application of artificial intelligence that provides systems the ability to automatically learn and improve from experience without being explicitly programmed. Machine learning focuses on the development of computer programs that can access data.

Types of machine learning technique’s

1 .Supervised Learning
2 .Unsupervised Learning
3 .Reinforcement Learning

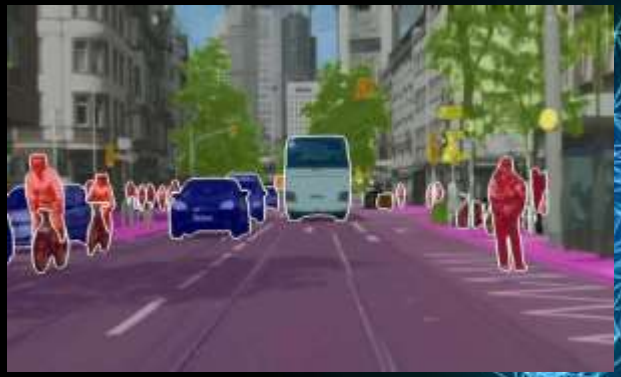
Use of ML



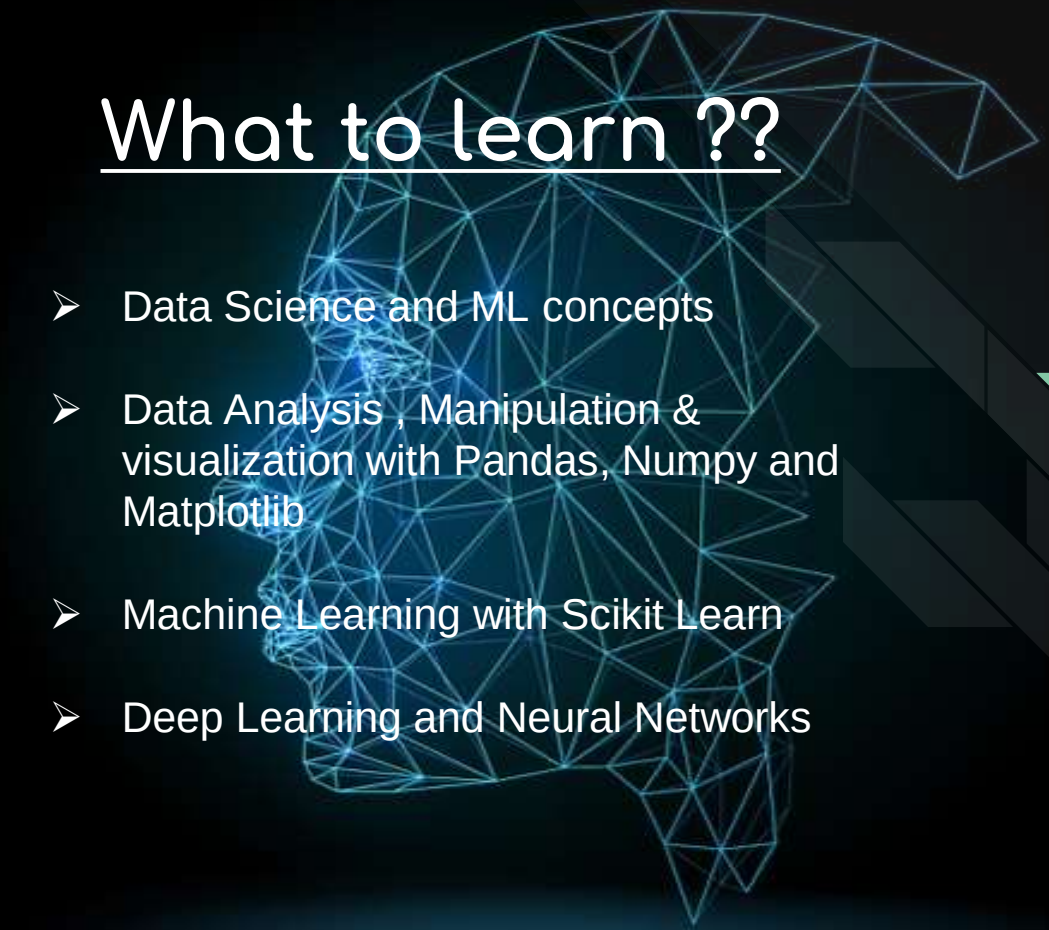
Drones
Self-driving cars
Military surveillance
Forest Activities
Video Surveillance
Traffic monitoring
Giving Recommendation

Virtual Assistance
Stock Market Signals
Real-Time Dynamic Pricing
Malware Filtering
weather prediction

Some Real life Example



What to learn ??



- Data Science and ML concepts
- Data Analysis , Manipulation & visualization with Pandas, Numpy and Matplotlib
- Machine Learning with Scikit Learn
- Deep Learning and Neural Networks

So now where to start from?

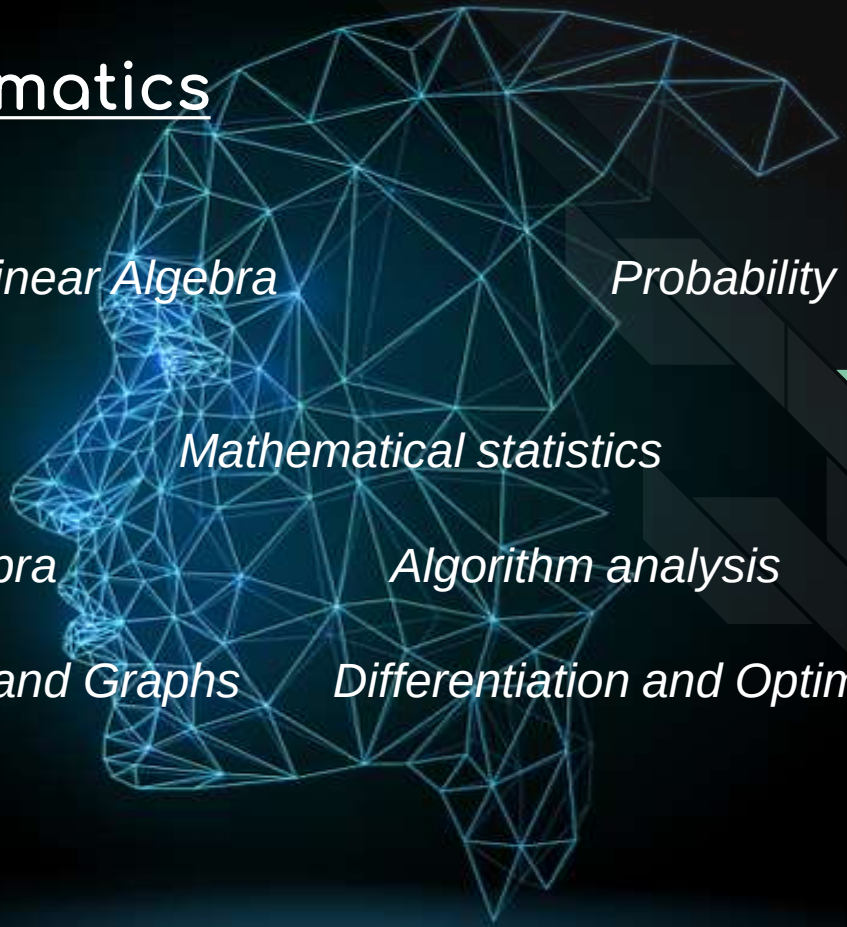
Learn a Language(Python Recommended)

Benefits that make **Python** the best fit for **machine learning and** AI-based projects include simplicity **and** consistency, access to great libraries **and** frameworks for AI **and machine learning** (**ML**), flexibility, platform independence, **and** a wide community

Python Libraries

* Numpy
* Scipy
* Scikit-learn
* Theano
* TensorFlow
* Keras
* PyTorch
* Pandas
* Matplotlib

Mathematics



Calculus
Linear Algebra
Probability
Statistics

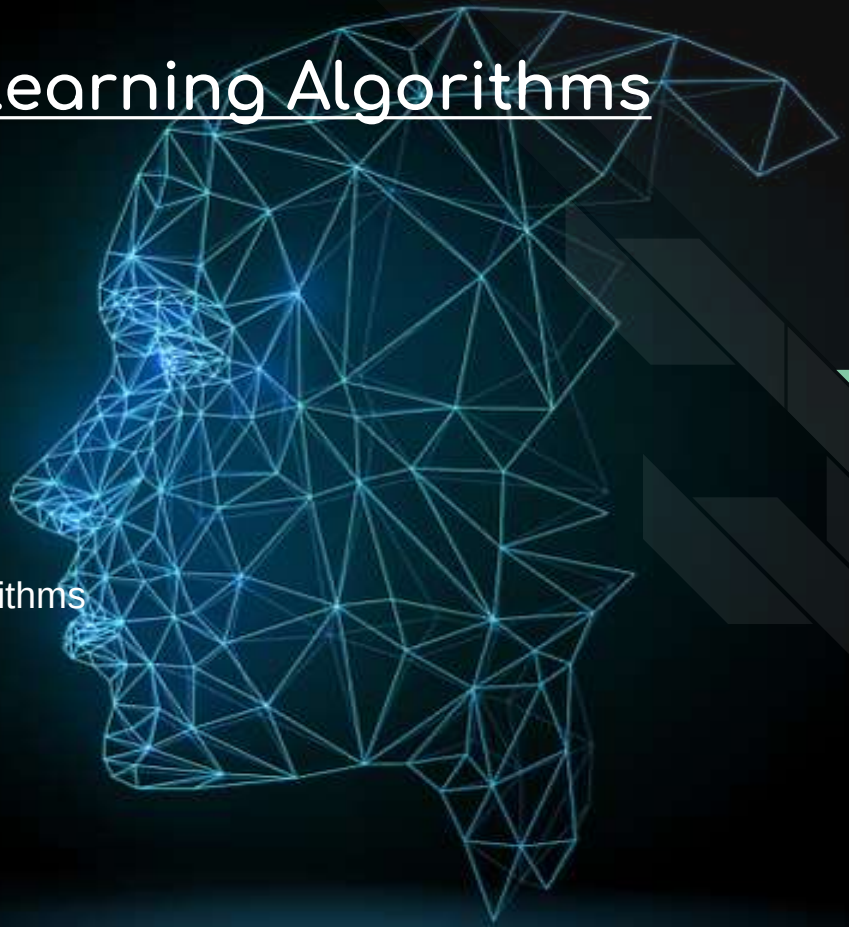
Differential equations
Mathematical statistics
Optimization

Numerical Linear Algebra
Algorithm analysis

Equations, Functions, and Graphs
Differentiation and Optimization

Vectors and Matrices

Start Learning Algorithms



- Linear Regression
- Logistic Regression
- Decision Tree
- SVM
- Naive Bayes
- KNN
- K-Means
- Random Forest
- Dimensionality Reduction Algorithms
- Gradient Boosting algorithms
- GBM
- XGBoost
- LightGBM
- CatBoost

Benefits of joining community

You will get proper guidance for studies and will also get help during project

Machine Learning is about collaboration and team work and you will get proper environment for this along with good partner's

If you would be eligible you will may get chance to work on the research paper's of out honourable professors.

Machine Learning is in huge demand, it has **Better Career Opportunities and Growth, it has Better Salaries**

It is estimated that by the end 2022 there will be 56 Million new Jobs in this domain and many more……..

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Top ML Job profiles in INDIA

- ML Engineer
- Data Scientist
- Business Intelligence Developer
- Research Scientist
- Big-Data Engineer/Architect

Important Links / Resources

Complete road map:-https://github.com/mrdbourke/machine-learning-roadmap

Andrew ng playlist:- https://www.youtube.com/playlist?list=PLLssT5z_DsK-h9vYZkQkYNWcItqhlRJLN

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Welcome to the Community

- Speaker 1 : Abhay Raj