

Data Scientist Roadmap

Data Scientist Banne ka Raasta: Ek Step-by-Step Roadmap

Yeh roadmap aapko ek successful data scientist banane mein madad karega. Isme har step ko saaf saaf samjhaya gaya hai, aur online resources bhi diye gaye hain. Roz ka kuchh hours lagao aur aage badhte raho!

Phase 1: Foundational Skills (Week 1-4) - Aapki Neev Mazboot Karo!

Week 1-2: Maths aur Programming ki Taiyaari

Topics: Linear Algebra basics, Calculus basics (derivatives, integrals), Probability & Statistics (distributions, hypothesis testing), Python Programming (variables, data types, loops, functions).

Resources:

Khan Academy: Free aur amazing resources for maths aur stats. www.khanacademy.org

Codecademy/freeCodeCamp: Python sikhne ke liye best online platforms. www.codecademy.com, www.freecodecamp.org

Week 3-4: Data Manipulation aur Visualization

Topics: Working with Pandas (DataFrames, data cleaning, manipulation), Data Visualization using Matplotlib & Seaborn (creating charts & graphs).

Resources:

DataCamp: Pandas aur visualization ke liye structured courses. www.datacamp.com (Free trial available)

YouTube (Sentdex/Corey Schafer): Python tutorials including Pandas aur Matplotlib. Search for "Pandas tutorial Sentdex" ya "Matplotlib tutorial Corey Schafer".

Phase 2: Intermediate Skills (Week 5-8) - Ab Kuchh Advanced Sikho!

Week 5-6: Machine Learning Algorithms

Topics: Supervised Learning (Regression, Classification), Unsupervised Learning (Clustering, Dimensionality Reduction), Model Evaluation Metrics.

Resources:

Andrew Ng's Machine Learning Course (Coursera): Ek classic course, thoda tough hai par bahut helpful.
www.coursera.org (Check for financial aid options)

StatQuest with Josh Starmer (YouTube): Machine learning concepts ko easily samjhane ke liye best channel.

Week 7-8: Model Building aur Evaluation

Topics: Using scikit-learn library for building models, cross-validation, hyperparameter tuning, evaluating model performance.

Resources:

scikit-learn documentation: Official documentation, sabse reliable source. scikit-learn.org/stable/

Kaggle Learn: Hands-on exercises aur competitions se sikho. www.kaggle.com/learn

Phase 3: Advanced Topics (Week 9-12) - Expert Banne ki Tayyari!

Week 9-10: Deep Learning Basics

Topics: Neural Networks, Backpropagation, TensorFlow/Keras basics.

Resources:

Deeplearning.ai (Coursera): Andrew Ng ka deep learning course, bahut popular aur helpful.

3Blue1Brown (YouTube): Neural networks ka intuitive samajhayi.

Week 11-12: Big Data Technologies

Topics: Introduction to Hadoop, Spark, SQL, cloud computing (AWS, GCP, Azure).

Resources:

Databricks' Spark tutorials: Spark sikhne ke liye best resources. www.databricks.com

Cloud provider's documentation (AWS, GCP, Azure): Aap jis cloud platform pe kaam karna chahte ho, uski documentation padho.

Phase 4: Project Building (Week 13-16) - Apna Portfolio Banaiye!

Week 13-16: Real-world Projects

Topics: Choose 2-3 projects from Kaggle, GitHub, or your own ideas. Focus on the entire data science lifecycle (data collection, cleaning, analysis, modeling, deployment).

Resources:

Kaggle: Competitions and datasets ke liye.

GitHub: Projects aur code share karne ke liye.

Important Note: Yeh sirf ek roadmap hai. Apni learning speed aur interests ke hisab se adjust karo. Regular practice aur consistency se hi aap successful data scientist ban sakte ho. All the best!