

# Machine Learning

This roadmap was [created by the AI and DS team](#) at Careem (an Uber company). Shout out to the creators [@mohamadtweets](#) and [@BulatShkanov](#)

Find the detailed version of this roadmap along with resources and other roadmaps

<https://roadmap.sh>

## Mathematics

- Linear Algebra, Calculus, Mathematical Analysis

Mathematics for Machine Learning [Free Courses](#)

- Differential Calculus

Coursera: Algebra and Differential Calculus [Free Course](#)

## Econometrics

- Pre-requisites of Econometrics

Fundamentals of econometrics [Book](#)

- Regressions, time series, fitting distributions

Intro to Econometrics [Book](#)

Coursera: Econometrics [Free Course](#)

Kaggle – Learn Time Series [Free Course](#)

Kaggle – Time Series Basics [Free Tutorial](#)

ARIMA Model for Time Series [Free Tutorial](#)

Time Series Models [Free Tutorial](#)

Forecasting Task with Solution [OpenSource Project](#)

Coursera: Linear Regression [Free Course](#)

## Statistics

- Statistics, CLT

Coursera: Introduction to Statistics [Free Course](#)

- Hypothesis Testing

Coursera: Hypothesis Testing [Free Course](#)

- Probability and Sampling

Coursera: Probability and Statistics [Free Course](#)

- AB Testing

Practitioner's Guide to Statistical Tests [Article](#)

Experiment Design Article [Article](#)

- Increasing Test Sensitivity

Minimum Detectable Effect [Article](#)

Paper: Improving Test Sensitivity [Paper](#)

Paper: Improving Sensitivity (CUPED) [Paper](#)

CUPED at Booking.com [Article](#)

Doordash: CUPAC [Article](#)

Netflix: Stratification [Paper](#)

- Ratio Metrics

Microsoft: Delta Method in Metric Analytics [Paper](#)

Paper: Ratio Metrics [Paper](#)

## Coding

- Learn Python Programming Language

Learn Python - Kaggle [Free Course](#)

Google's Python Class [Free Course](#)

- Data Structures and Algorithms (Python)

Algorithmic Exercises [Tutorial + Challenges](#)

Study Plans - Leetcode [Free Challenges](#)

Algorithms Specialization [Free Course](#)

- Learn SQL

SQL Tutorial [Free Course](#)

## Exploratory Data Analysis (EDA)

- Data understanding, Data Analysis, Vizualisation

Exploratory Data Analysis With Python and Pandas [Free Course](#)

Exploratory Data Analysis for Machine Learning [Free Course](#)

Exploratory Data Analysis with Seaborn [Free Course](#)

## Machine Learning

- Classic ML (Sup. and Unsup.) Advanced ML (Ensembles, NNs)

Open Machine Learning Course - OpenDataScience [Free Course](#)

Machine Learning Specialization [Free Course](#)

Pattern Recognition & ML by Christopher m. bishop [Free eBook](#)

GitHub Repository with Notes and Code from the eBook Above

## Deep Learning

- Fully connected NN, CNN, RNN, LSTM, Transformers, Transfer Learning

Deep Learning Specialization [Free Courses](#)

Deep Learning Book [Free Book](#)

Attention is all you need [Paper](#)

The Illustrated Transformer [Article](#)

## MLOps

- Deployment models, CI/CD

MLOps Specialization [Free Courses](#)

Keep Learning