# Course Title: Recommender Systems with Machine Learning & Deep Learning

## In This Course, You Will Learn About:

* Learn the about basics of recommender systems
* Learn the basics impact of recommender systems with integrated artificial intelligence
* Learn about the major challenges and applications of recommender systems
* Learn the basic taxonomy of recommender systems
* Learn the fundamental concepts i.e., item-context matrix, user-rating matrix, inferring matrix, quality of recommender systems and recommender system evaluation techniques
* Learn the impact of overfitting, underfitting, bias and variance
* Learn the fundamental concepts of content based filtering and collaborative filtering
* Learn the hands-on development of recommender system using machine learning topologies with python
* Learn building the recommender system for various recommender system applications such as Spotify song recommending systems using machine learning and python
* Hands on experience to build content-based recommender systems with machine learning and python
* Hands on experience to build item-based recommender systems using machine learning techniques and python
* Learn to model k-nearest neighbors-based recommender engine for various types of applications of recommender systems in python
* Learn the about deep learning of recommender systems
* Learn the about benefits and challenges of deep learning in recommender systems
* Learn about the mechanism of generic deep learning-based approaches for recommender system
* Learn the basic neural network models for recommendations
* Learn the theoretical aspects of neural collaborative filtering and variational auto encoders for collaborative filtering
* Learn the hands-on practice for the implementation of deep learning-based recommender system
* Learn about the implementation of two-tower model and its implementation for development of recommender systems
* Learn the implementation of TensorFlow recommenders for the development of recommender systems
* And much more…

## Requirements:

* No prior knowledge of Recommender Systems, Machine Learning, Data Analysis or Mathematics is needed. We will start from the basics and gradually build your knowledge in the subject
* A willingness to learn and practice
* Only basic Python is required

## Comprehensive Course Description:

**Have you ever thought how YouTube adjust your feed as per your favorite content?**

**Ever wondered! Why is your Netflix recommending you your favorite TV shows?**

**Have you ever wanted to build a customized recommender system for yourself?**

**If Yes! Then this is the course you are looking for.**

**You might have searched for many relevant courses, but this course is different!**

This course is a complete package for the beginners to learn the basics of recommender systems, its applications and building it from scratch by using machine learning and deep learning with python. Every module has engaging content covering necessary theoretical concepts with a complete practical approach is used in along with brief theoretical concepts. At the end of every module, we assign you a quiz, the solution to the quizzes is also available in the next video.

We will be starting with the theoretical concepts of recommender systems, after providing you the basic knowledge of recommender systems. You will be able to learn about the important taxonomies of recommender systems which are the basic building block of it.

This complete package will enable you to learn the basic to advance mechanism of developing recommender system by using machine learning and deep learning with python. We’ll be using Python as a programming language in this course, which is the hottest language nowadays if we talk about machine leaning. Python will be taught from elementary level up to an advanced level so that any machine learning and deep learning concepts can be implemented.

This comprehensive course will be your guide to learning how to use the power of Python to evaluate your recommender systems datasets based on user ratings, user choices, music genres, categories of movies, and their year of release. Moreover, a practical approach will be adopted to build content-based filtering and collaborative filtering techniques for recommender systems where hands on experience will be developed.

We’ll learn all the basic and necessary concepts for the applied recommender systems models along with the machine learning and deep learning models. Moreover, various projects have been included in this course to develop a very useful experience for yourselves.

Machine learning has been ranked as one of the hottest jobs on Glassdoor, and the average salary of a machine learning engineer is over $110,000 in the United States, according to Indeed! Machine Learning is a rewarding career that allows you to solve some of the world's most interesting problems!

This course is designed for both beginners with some programming experience or even those who know nothing about Data Analysis, ML and RNNs!

This comprehensive course is comparable to other Recommender Systems using Machine Learning and Deep Learning courses that usually cost thousands of dollars, but now you can learn all that information at a fraction of the cost in only one course! With over 6 hours of HD video lectures that are divided into many videos and detailed code notebooks for every address this is one of the most comprehensive courses for Recommender Systems using Machine Learning and Deep Learning on Udemy!

### Why Should You Enroll in This Course?

The course is crafted to help you understand not only the role and impact of recommender systems in real world applications, but it provides a very unique hands on experience on developing complete recommender systems engines for your customized dataset by using various projects. This straightforward **learning by doing** course will help you in mastering the concepts and methodology with regards to Python.

This course is:

* Easy to understand.
* Expressive and self-explanatory
* To the point
* Practical with *live* coding
* A complete package with three in depth projects covering complete course contents
* Thorough, covering the most advanced and recently discovered machine learning models by renowned data scientists and AI practitioners

### Teaching Is Our Passion:

We focus on creating online tutorials that encourage **learning by doing**. We aim to provide you with more than a superficial look at practical approach towards building recommender systems using machine learning from the perspective of content-based filtering and collaborative filtering. For instance, this course has two projects in the final module which will help you to *see for yourself* via experimentation the practical implementation of machine learning with data analysis on the real-world datasets of movies and Spotify songs. We have worked extra hard to ensure you understand the concepts clearly. We want you to have a sound understanding of the basics before you move onward to the more complex concepts. The course materials that make certain you accomplish all this include high-quality video content, course notes, meaningful course materials, handouts, and evaluation exercises. You can also get in touch with our friendly team in case of any queries.

## Course Content:

We'll teach you how to program with Python, how to use machine learning concepts to develop recommender systems! Here are just a few of the topics that we will be learning:

1. Course Overview
2. Motivation for Recommender Systems
   * Recommender Systems Process
   * Goals of Recommender Systems
   * Generations of Recommender Systems
   * Nexus of Recommender Systems with Artificial Intelligence
   * Real World Challenges of Recommender Systems
   * Applications of Recommender Systems
3. Basics of Recommender Systems
   * Taxonomy of Recommender Systems
   * Item-context Matrix
   * User-Rating Matrix
   * Inferring Preferences
   * Quality of Recommender Systems
   * Online and Offline Evaluation Techniques
   * Dataset Partitioning
   * Overfitting
   * Error Matrix
   * Content-based Filtering
   * Collaborative Filtering
   * User-based and Item-based Collaborative Filtering
4. Recommender Systems with Machine Learning
   * Machine Learning in Recommender Systems
   * Benefits of Machine Learning in Recommender Systems
   * Design Approaches for Recommender Systems using Machine Learning
   * Guidelines for Machine Learning based Recommender Systems
   * Hands on- Practical Approach for Content Based Filtering using Machine Learning
   * Hands on- Practical Approach for Item based Collaborative Filtering using Machine Learning
5. Project 1: Songs Recommendation System for a Music Application using Machine Learning
6. Project 2: Movie Recommendation System using K-nearest Neighbors Algorithm
7. Deep Learning for Recommender Systems
   * Overview of Deep Learning in Recommendation Systems
   * Benefits and Challenges of Deep Learning in Recommender Systems
   * Deep Learning for Recommendation Inference
   * A Generic Deep Learning based Recommendation Approach
   * Neutral Collaborative Filtering
8. Project: Amazon Product Recommendation System
   * Packages Installation
   * Data Analysis for Products Recommendation
   * Data Preparation
   * Model Development using Two-tower Approach
   * Implementing TensorFlow Recommenders
   * Fitting and Evaluation or Recommender System
   * Validation of Recommender System
   * Testing a Recommender Model
   * Making Predictions using Recommender Systems

**Enroll in the course and become a recommender systems expert today!**

### After completing this course successfully, you will be able to:

* Relate the concepts and theories for recommender systems in various domains
* Understand and implement machine learning models for building real world recommendation systems
* Understand and implement deep learning models for building real world recommendation systems
* Understand evaluate the machine learning and deep learning models

## Who this course is for:

* People who want to advance their skills in applied machine learning and deep learning
* People who want to master relation of data analysis with machine learning and deep learning
* People who want to build customized recommender systems for their applications
* People who want to implement machine learning and deep learning algorithms for recommender systems
* Individuals who are passionate about recommender systems specially content based and collaborative filtering-based recommenders and two tower based recommender systems
* Machine Learning and Deep Learning Practitioners
* Research Scholars
* Data Scientists