Building Recommendation Systems with Python

Explore Step-by-Step Skills to Develop and Deploy Industry Standard Intelligent Recommendation Systems

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Course Snapshot

- **Course:** Building Recommendation Systems with Python **(TTAML012)**
- **Duration**: 3 days
- **Skill-level**: Foundation-level Recommendation Systems with Python for Intermediate skilled team members. This is not a basic class.
- **Targeted Audience**: This course is geared for Python experienced developers, analysts or others who are intending to learn the tools and techniques required in building various kinds of powerful recommendation systems (collaborative, knowledge and content based) and deploying them to the web.
- **Hands-on Learning:** This course is approximately **50% hands-on lab to 50% lecture ratio**, combining engaging lecture, demos, group activities and discussions with machine-based student labs and exercises. Student machines are required.
- **Delivery Options**: This course is available for **onsite private classroom presentation**, **live online virtual presentation**, or can be presented in a **flexible blended learning format** for combined onsite and remote attendees. Please also ask about our **Self-Paced** / **Video** or **QuickSkills / Short Course** options.
- **Public Schedule**: This course is available on our **Public Open Enrollment Schedule**.
- **Customizable**: This course agenda, topics and labs can be further adjusted to target your specific training skills objectives, tools of choice and learning goals.

Overview

Recommendation systems are at the heart of almost every internet business today; from Facebook to Netflix to Amazon. Providing good recommendations, whether its friends, movies, or groceries, goes a long way in defining user experience and enticing your customers to use your platform.

This course shows you how to do just that. You will learn about the different kinds of recommenders used in the industry and see how to build them from scratch using Python. No need to wade through tons of machine learning theory—you will get started with building and learning about recommenders as quickly as possible. In this course, you will build an IMDB Top 250 clone, a content-based engine that works on movie metadata. You will also use collaborative filters to make use of customer behavior data, and a Hybrid Recommender that incorporates content based and collaborative filtering techniques.

Students will learn to build industry-standard recommender systems, leveraging basic Python syntax skills. This is an applied course, so machine learning theory is only used to highlight how to build recommenders in this course.

Learning Objectives

This skills-focused course is approximately **50% hands-on lab to 50% lecture ratio**, combining engaging lecture, demos, group activities and discussions with machine-based student labs and exercises.. Our engaging instructors and mentors are highly-experienced practitioners who bring years of current, **modern "on-the-job" modern applied datascience, AI and machine learning experience** into every classroom and hands-on project.

Working in a hands-on lab environment led by our expert instructor, attendees will

- Understand the different kinds of recommender systems
- Master data-wrangling techniques using the pandas library
- Building an IMDB Top 250 Clone
- Build a content-based engine to recommend movies based on real movie metadata
- Employ data-mining techniques used in building recommenders
- Build industry-standard collaborative filters using powerful algorithms
- Building Hybrid Recommenders that incorporate content based and collaborative filtering

Need different skills or topics? If your team requires different topics or tools, additional skills or custom approach, this course may be further adjusted to accommodate. We offer additional AI, machine learning, data science, programming, Python/R and other related topics that may be blended with this course for a track that best suits your needs. Our team will collaborate with you to understand your needs and will target the course to focus on your specific learning objectives and goals.

Audience & Pre-Requisites

This course is geared for attendees with who wish to build recommendation systems.

Attending students should have the following incoming skills:

- Basic to Intermediate IT Skills.
- Basic Python syntax skills are recommended. Attendees without a programming background like Python may view labs as follow along exercises or team with others to complete them.
- Good foundational mathematics or logic skills
- Basic Linux skills, including familiarity with command-line options such as ls, cd, cp, and su

Take Before: Students should have incoming skills equivalent to the topics in the course(s) below or attend these as a pre-requisite:

- TTPS4873 Python Programming for Data Science (3 days)

Enhanced Learning Support: Please ask about our **Pre-Training Class OnRamps & Primer** offerings, **Skills Gap Assessment Services**, **Case Studies**, **Knowledge Check Quizzes**, **Skills Immersion Programs & Camps**, **Collaborative Mentoring Services** and **Extended Learning Support** services.

Course Topics / Agenda

Please note that this list of topics is based on our standard course offering, evolved from typical industry uses and trends. We will work with you to tune this course and level of coverage to target the skills you need most. Course agenda, topics and labs are subject to adjust during live delivery in response to student skill level, interests and participation.

1. Getting Started with Recommender Systems

- Technical requirements
- What is a recommender system?
- Types of recommender systems

2. Manipulating Data with the Pandas Library

- Technical requirements
- Setting up the environment
- The Pandas library
- The Pandas DataFrame
- The Pandas Series

3. Building an IMDB Top 250 Clone with Pandas

- Technical requirements
- The simple recommender
- The knowledge-based recommender

4. Building Content-Based Recommenders

- Technical requirements
- Exporting the clean DataFrame
- Document vectors
- The cosine similarity score
- Plot description-based recommender
- Metadata-based recommender
- Suggestions for improvements

5. Getting Started with Data Mining Techniques

- Problem statement
- Similarity measures
- Clustering
- Dimensionality reduction
- Supervised learning
- Evaluation metrics

6. Building Collaborative Filters

- Technical requirements
- The framework
- User-based collaborative filtering
- Item-based collaborative filtering
- Model-based approaches

7. Hybrid Recommenders

- Technical requirements
- Introduction
- Case study and final project – Building a hybrid model

Course Materials: Each student will receive a **Student Guide** with course notes, code samples, software tutorials, step-by-step written lab instructions, diagrams and related reference materials and links (as applicable). Students will also receive the project files (or code, if applicable) and solutions required for the hands-on work.

Lab Setup Made Simple. All course labs and solutions, data sets, Tableau course software (limited version, for course use only), detailed courseware, lab guides and resources (as applicable) are provided for attendees in our easy access, no installation required,

remote lab environment for the duration of the course. Our tech team will help set up, test and verify lab access for each attendee prior to the course start date, ensuring a smooth start to class and successful hands-on course experience for all participants.

For More Information

Need dedicated training? All courses can be presented **onsite** or **online,** or in a **combined / flex / blended learning format**, tailored to target your specific audience, needs and learning goals. We also offer focused, flexible **short courses, self-paced learning** options, **recorded sessions** and more. We train beginner to advanced skills in all areas we coveer, and offer **New Hire / Cohort Training**, **Boot Camps**, **Skills Immersion Programs**, **Reskilling Programs**, **Skills Migration & Transition Programs**, and more. We collaborate with you to ensure all courses are truly targeted to meet your specific needs and learning skills, maximizing your valuable training time, as well as your important budget.

Please also visit our extensive **Public Training Schedule** for training for smaller groups or individuals. Please contact us for course details, **Corporate Rates** and **Special Discount Offers**.

For more information about our dedicated training services, collaborative mentoring services, courseware licensing options, courseware development services, public course schedule, training management services, partner and reseller programs, or to see our complete list of course offerings and special offers please visit us at **www.triveratech.com**, email **Info@triveratech.com** or call us toll free at **844-475-4559.** Our pricing and services are always satisfaction guaranteed.

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