Data & AI Fundamentals (LFS115x)

This online course is an introduction to the amazing world of Artificial Intelligence. Concretely, it brings a combination of AI fundamentals and an overview of the rich Linux Foundation AI & Data projects ecosystem. It is well-suited for any kind of AI adopter, regardless of the professional background and level of technical knowledge

Course Overview

Artificial Intelligence is everywhere. Organizations are increasingly adopting AI as a way to enable data-driven decision making, and as a great source of automated predictions that will potentially generate interesting savings or new sources of revenue. Even our personal devices, such as smartphones or voice assistants, are already leveraging AI technologies.

However, the level of AI maturity within the companies varies a lot, as well as the needs for AI-savvy professionals. The reality is that not everyone needs to be an AI expert or a data scientist. Companies need other kinds of profiles for which at least AI knowledge is required, such as product managers or top executives managing innovation initiatives.

This class is a good way to get started and a very pragmatic overview of AI fundamentals, accessible to both technical and non-technical profiles, as well as an entry door to the amazing Linux Foundation Data & AI ecosystem, which will be very useful for those folks looking for relevant open source tools or even for areas where to get involved to continue developing new data and AI skills.

Course Instructor

Adrian Gonzalez Sanchez is a Cloud, Data & AI Specialist at Microsoft, as well as the Industrial AI Lead for the Spanish Observatory of Ethical AI (OdiseIA). He has previously worked as a Senior Consultant and Product Owner in AI and data science with CGI Canada and IVADO Labs, Head of AI Customer Success for Peritus.ai, and other data-driven companies in Europe and Latin America.

He is a trainer for the École des Dirigeants at HEC Montréal, the Continuing Education Department at Concordia University, and online training courses for O'Reilly Media and the Linux Foundation. He also collaborates with 2U / GetSmarter as a tutor and facilitator for MIT Sloan's AI and Blockchain executive courses, and Harvard VPAL's Fintech course.

His areas of expertise are AI strategy and project management, responsible AI systems implementation, big data and cloud computing, data and AI governance, ethical and regulatory impact of technological innovation, telecommunications, and the Internet of Things.

Audience

This course is a good fit for professionals and students looking for new AI skills. Company executives, hiring managers, product managers, and developers, but also industry folks coming from diverse industries such as finance, supply chain, manufacturing, etc.

Prerequisites

There are no specific requirements, except the willingness to learn and the ability to reflect on the course content, as an opportunity to apply it to their own professional activities. Some general knowledge of The Linux Foundation’s role and activities is recommended.

Course Length

10-15 hours, including course content and recommended readings

Course Learning Objectives

By the end of this course, you should be able to:

- Differentiate different kinds of AI technologies (e.g., machine learning, NLP).
- Enumerate typical AI use cases for a variety of industries.
- Identify potential AI career opportunities.
- Navigate the rich set of Linux Foundation Data & AI open source projects and tools.

Course Outline

- **Welcome!**
  This section provides an introduction to the course, including important information on how to take the course. This section also includes the learning outcomes overview.
- **Chapter 1. Introduction to Artificial Intelligence**
  This section discusses the general context of AI, the relationship between data and AI, the AI lifecycle, types of AI technologies, and prediction capabilities.
- **Chapter 2. Related AI Topics**
  This section delves into ethical discussions, data & AI governance, cloud-enabled AI capabilities, and AI-related roles and professional opportunities.
- **Chapter 3. LF AI & Data Foundation**
  This section discusses the role of the LF AI & Data Foundation, community resources, and projects.
- **Final Exam (Verified Certificate track only)**

edX Platform

If you are using edX for the first time, we strongly encourage you to start by taking a free 'how to use edX' course that the team at edX has made available. In this course, you will learn how to navigate the edX platform, how to connect with other edX learners, how to answer problems on the edX platform, how grades work in edX courses, and how to complete your first course.

Click here to register for "*DemoX*" and you will be on your way. You will find the edX platform simple and intuitive.

Getting Help

For any **technical issues** with the edX platform (including login problems and issues with the Verified Certificate), please use the **Help** icon located on the upper right side of your screen.

One great way to interact with peers taking this course and resolving any **content-related issues** is via the **Discussion Forums**. These forums can be used in the following ways:

- To discuss concepts, tools, and technologies presented in this course, or related to the topics discussed in the course material.
- To ask questions about course content.
- To share resources and ideas related to Data and Artificial Intelligence.

We strongly encourage you not only to ask questions, but to share with your peers opinions about the course content, as well as valuable related resources. The Discussion Forums will be reviewed periodically by The Linux Foundation staff, but it is primarily a community resource, not an 'ask the instructor' service.

Course Timing

This course is entirely self-paced; there is no fixed schedule for going through the material. You can go through the course at your own pace, and you will always be returned to exactly where you left off when you come back to start a new session. However, we still suggest you avoid long breaks in between periods of work, as learning will be faster and content retention improved.

The chapters in the course have been designed to build on one another. It is probably best to work through them in sequence; if you skip or only skim some chapters quickly, you may find there are topics being discussed you have not been exposed to yet. But this is all self-paced and you can always go back, so you can thread your own path through the material.

Learning Aids

Besides simple exposition through text and figures, this course uses several additional methods to present and solidify the learning material, including videos, external resources, and knowledge check questions (Verified Certificate track only).

Audit and Verified Tracks

You can enroll into an audit or a verified track. In an audit track, you will have access to all ungraded course content: course readings, videos, and learning aids, but no certificates are awarded when auditing. You will not be able to access any graded content (knowledge check questions at the end of each chapter, and the final exam).

In order to receive a certificate, you will need to obtain a passing grade (please refer to the "Grading" section below), verify your identity with edX, and pay a fee. Once all edX requirements have been met, you can download your certificate from the Progress tab.

To learn more about audit and verified tracks, visit edX Help Center > Certificates.

Grading (Verified Certificate track only)

At the end of each chapter, you will have a set of graded **knowledge check questions**, that are meant to further check your understanding of the material presented. The grades obtained by answering these knowledge check questions will represent **20%** of your final grade.

The remaining **80%** of your final grade is represented by the score obtained in the **final exam**. The final exam is located at the end of the course and it consists of 10 questions.

You will have a maximum of two attempts to answer each knowledge check and final exam question (other than True/False questions, in which case, you have only one attempt). You are free to reference your notes, screens from the course, etc., and there is no time limit on how long you can spend on a question. You can always skip a question and come back to it later.

In order to complete this course with a passing grade, you must obtain a passing score (knowledge check and final exam) of minimum 70%.

Course Progress and Completion (Verified Certificate track only)

Once you complete the course (including knowledge check questions and final exam), you will want to know if you have passed. You will be able to see your completion status using the **Progress** tab at the top of your screen, which will clearly indicate whether or not you have achieved a passing score.

About The Linux Foundation

The Linux Foundation provides a neutral, trusted hub for developers to code, manage, and scale open technology projects. Founded in 2000, The Linux Foundation is supported by more than 1,000 members and is the world's leading home for collaboration on open source software, open standards, open data and open hardware. The Linux Foundation's methodology focuses on leveraging best practices and addressing the needs of contributors, users and solution providers to create sustainable models for open collaboration.

The Linux Foundation hosts Linux, the world's largest and most pervasive open source software

project in history. It is also home to Linux creator Linus Torvalds and lead maintainer Greg Kroah-Hartman. The success of Linux has catalyzed growth in the open source community, demonstrating the commercial efficacy of open source and inspiring countless new projects across all industries and levels of the technology stack.

As a result, the Linux Foundation today hosts far more than Linux; it is the umbrella for many critical open source projects that power corporations today, spanning virtually all industry sectors. Some of the technologies we focus on include big data and analytics, networking, embedded systems and IoT, web tools, cloud computing, edge computing, automotive, security, blockchain, and many more.

The Linux Foundation Events

The Linux Foundation hosts an increasing number of events each year, including:

- Open Source Summit North America, Europe, Japan and China
- Embedded Linux Conference + OpenIoT Summit North America and Europe
- Open Source Leadership Summit
- Open Networking Summit North America and Europe
- KubeCon + CloudNativeCon North America, Europe and China
- Automotive Linux Summit
- KVM Forum
- Linux Storage Filesystem and Memory Management Summit
- Linux Security Summit North America and Europe
- Cloud Foundry Summit
- Hyperledger Global Forum
- And many more.

To learn more about The Linux Foundation events and to register, click here.

The Linux Foundation Training

The Linux Foundation offers several types of training:

- Classroom
- Online
- On-site
- Events-based.

To get more information about specific courses offered by The Linux Foundation, click here.

The Linux Foundation Certifications

The Linux Foundation certifications give you a way to differentiate yourself in a job market that's hungry for your skills. We've taken a new, innovative approach to open source certification that allows you to showcase your skills in a way that other peers will respect and employers will trust:

- You can take your certification from any computer, anywhere, at any time
- The certification exams are either performance-based or multiple choice
- The exams are distribution-flexible
- The exams are up-to-date, testing knowledge and skills that actually matter in today's IT environment.

For a list of currently offered certifications, click here.

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