Welcome to AI for Telco Part 1: AI, ML, DL, and Gen AI

ANI_108d | On-Demand | Automation and Insights | Express
Course Duration: 1 hour

Artificial Intelligence (AI) is revolutionizing all aspects of the computer industry. The impacts of AI have been seen on a number of areas such as speech and image recognition. The telecom industry is no different. This course provides an overview of various AI techniques and their use in Telecom world. AI is explored from a definition, underlying technology and use-cases perspective. It starts with an introduction to AI and data analytics. The course then moves to key AI use cases and the AI technologies of Machine Learning (ML) and Deep Learning (DL). The course also covers how to build an AI model, some of the common tools, and the key challenges. The course concludes with a look at the future and the introduction of Generative AI and ways to augment foundation models with one's own data.

Intended Audience

This is an introductory course on Artificial Intelligence and is suitable for beginners to this area.

Objectives

After completing this course, the learner will be able to:

- Define Artificial Intelligence (AI), Machine Learning (ML) and Deep Learning (DL)
- Explore the key use cases within telecommunications for AI
- Use AI related terminology effectively
- Compare and contrast deep learning and machine learning
- List popular Machine Learning and Deep Learning models and their uses
- Define generative AI and list its benefits and challenges

Outline

1. Introduction to AI
1.1 Brief history and evolution of AI
1.2 Types of AI

2. Introduction to Data Analytics
2.1 Importance of data analytics in telecom
2.2 Overview of descriptive analytics
2.3 Overview of predictive analytics
2.4 Overview of prescriptive analytics

3. Introduction to Machine Learning (ML)
3.1 What is ML?
3.2 Supervised and Unsupervised Learning
3.3 Reinforcement Learning
3.4 Role of ML in telecom
3.5 MLOps and its benefits

4. Introduction to Deep Learning (DL)
4.1 What are DL and Neural Networks
4.2 Difference between ML and DL
4.3 Artificial Neural Networks
4.4 Feed Forward Networks
4.5 Convolutional Neural Networks (CNN)
4.6 Recurrent Neural Networks (RNN) and Long Short-Term Memory (LSTM)
4.7 Role of DL in Telecom

5. Introduction to Generative AI (GenAI)
5.1 What is GenAI and its impact
5.2 Key applications of GenAI
5.3 Options to augment GenAI with one's own data

6. Summary

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