AWS Machine Learning Speciality Notes

Your Name

Date: April 16, 2025

Contents

1	Introduction	5
2	Data Engineering	7
3	Exploratory Data Analysis 3.0.1 Python stuff	9 11
4	Modeling, Part 1: General Deep Learning and Machine Learning	13
5	Modeling, Part 2: Amazon SageMaker	15
6	Modeling, Part 3: High-Level ML Services	17
7	Modeling, Part 4: Wrapping up and Labs	19
8	ML Implementation and Operationsl	21
9	Practice Exam Questions	23
10	Generative AI: Transformers GPT, Self-Attention and Foundation Models	25
11	Wrapping Up	27

Introduction

Data Engineering

Exploratory Data Analysis



3.0.2 Types of Data

- Numerical
- Categorical
- Ordinal

Numerical

- Represents some sort of quantitative measurement - Heights of people, page load times, stock prices etc - Discrete Data - Integer based; often counts of some event - Continuous Data - Has an infinite number of possible values

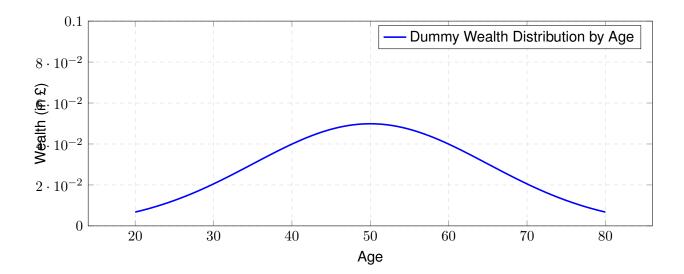
Categorical

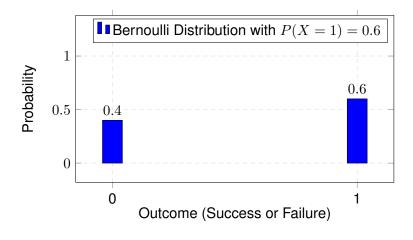
- Qualitative data that has no inherent mathematical meaning - Can assign number to categories in order to represent them more compactly, but the numbers don't have a mathematical meaning.

Ordinal

- A mixture of numerical and categorical - Categorical data that has mathematical meaning

Data Distributions

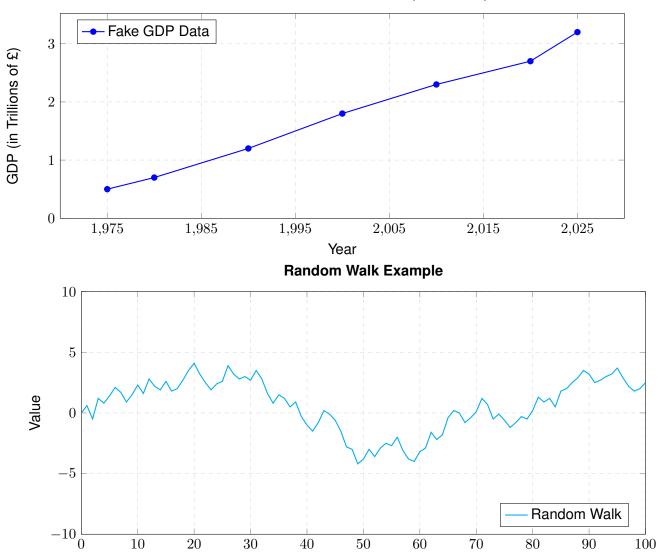




3.0.3 Time series analysis

3.0.4 Time Series Analysis: GDP in the UK (Fake Data)

UK GDP Growth Over 50 Years (Fake Data)



Step

Modeling, Part 1: General Deep Learning and Machine Learning

Modeling, Part 2: Amazon SageMaker

Modeling, Part 3: High-Level ML Services

Modeling, Part 4: Wrapping up and Labs

ML Implementation and OperationsI

Practice Exam Questions

Generative AI: Transformers GPT, Self-Attention and Foundation Models

Wrapping Up