Module 18 Career Connection

Introduction

Welcome back to another Career Connection! This week you continued to explore machine learning and how algorithms are used in data analytics. You also spent time digging into the difference between supervised and unsupervised learning, as well as how to cluster data using the K-means algorithm.

It was a packed week! This material can be tricky, but it's essential to your future career as a data engineer.

NOTE

> The artificial intelligence talent market is hot! It's estimated that the AI business value will reach **$3.9 trillion by 2022** (https://enterprisersproject.com/article/2019/8/ai-artificial-intelligence-careers-salaries-7-statistics).

Machine learning is an extremely popular career choice. According to **Indeed** (http://blog.indeed.com/2019/03/14/best-jobs-2019/), in 2019, machine learning engineers earned an average base salary of $146,085, and job postings for this position grew by 344%. There are a variety of career paths you might take in machine learning, including:

Machine Learning Engineer

Machine learning engineers work in programming languages such as Python, JavaScript, and Scala, with their respective and appropriate machine learning libraries. They also analyze data to create different algorithms that run autonomously with little need for human interaction.

Data Scientist

Data scientists use data analytics technologies in order to analyze and interpret large amounts of data that can produce actionable insights. In short, they look at data and determine what it tells us. Using languages such as Python and SQL, data scientists also use machine learning technologies to improve their analyses.

Natural Language Processing Scientist

Natural language processing (NLP) scientists create machine algorithms that learn patterns of speech and translate spoken words in other languages. This job combines skills from machine learning as well as communication, grammar, syntax, and spelling.

Here are some **statistics about machine learning careers (https://enterprisersproject.com/article/2019/8/ai-artificial-intelligence-careers-salaries-7-statistics)** :

- As a result of AI adoption, 40% of Global 2000 organizations are adding jobs.
- By 2022, an estimated 133 million new jobs will be created by AI.
- There are approximately 7,000 AI job openings in the United States.
- The average salary for machine learning engineers is $142,858.

Hypothetical Case Study

This week, there is no narrative for the hypothetical case study. Instead, we want you to consider something that could have practical application in your life.

Consider a real-life situation in which the skills you learned this week would apply. Pseudocode a solution for tackling it. You can use the template below or write your own. Complete this assignment in any text editor, or write it in a markdown file that can be uploaded to GitHub.

NOTE

Pseudocode means to write out in plain language (English or other!) the steps you would take in order to solve a specific problem. You do not need to include actual code here; the goal is just to create a kind of roadmap for solving the problem.

Template

Title

A short, succinct title that identifies the topic of the narrative.

Business Problem

Write two or three sentences outlining the problem and why it should be solved. In other words, why is your idea a good product proposition?

Solution

Write two or three sentences outlining the solution and/or steps that you could take to solve the problem. Your solution should utilize machine learning. Feel free to search the internet for ideas.

Consider the following example:

Title: Winematcher, learning your tastes.

Business Problem: You organize a dinner party with friends. You put a lot of time and effort into the food being served, but you're not sure which wine goes best with each type of food. How can you make wine suggestions for your guests if you don't have expertise in wine pairing?

Solution Build a wine-matching application that recommends a wine based on the dish or ingredients that you enter. This app would be a self-learning program that acquires knowledge from a large number of examples. A user enters their taste profiles and ingredients of a dish, and the application returns a matching wine.

Data could be entered using database entries as well as crowd-sourcing opinions and flavor profiles from the app's users.

Include libraries and algorithms that will help build the machine learning aspect of this application.

Continue to Hone Your Skills

If you're interested in learning more about the technical interviewing process and practicing algorithms in a mock interview setting, check out our **upcoming workshops.** **(https://careernetwork.2u.com/?utm_medium=Academics&utm_source=boot_camp)**