Data Science Tasks & Instructions — CodeAlpha

🖥 Data Science — Internship Overview

This internship program offers practical experience in data science, machine learning, and statistical modeling. CodeAlpha is a leading software development company specializing in data-driven innovation and AI solutions. The internship empowers students to work with tools like Python, R and libraries such as Pandas, Scikit-learn, and TensorFlow. Interns will learn data preprocessing, exploratory data analysis, building predictive models and deploying machine learning solutions. With expert mentorship and hands-on projects, interns will gain the skills needed to solve real-world problems using data science techniques.

🎁 Internship Perks

- Internship Offer Letter
- Completion Certificate (QR Verified)
- Unique ID Certificate
- Letter of Recommendation (based on performance)
- Job Opportunities / Placement Support
- Resume Building Support

📌 Instructions for Interns

1. Share your internship status on **LinkedIn**, tagging **@CodeAlpha**.
2. Complete the **assigned projects** within the mentioned time frame.
3. Upload your complete source code to **GitHub** in a repository named:
   `CodeAlpha_ProjectName`
4. Post a **video explanation** of your project on LinkedIn with GitHub repo link.
5. Submit your completed task using the **Submission Form**.
6. **Complete any 3 or 2 out of the 4 tasks** listed below (from your domain).

📱 Data Science Task List

(Complete any 2 or 3 of the following tasks)

✅ TASK 1: Iris Flower Classification

- Use measurements of **Iris flowers** (setosa, versicolor, virginica) as input data.
- Train a **machine learning model** to classify the species based on these measurements.
- Use libraries like **Scikit-learn** for easy dataset access and model building.
- Evaluate the model's **accuracy and performance** using test data.
- Understand **basic classification concepts** in machine learning.
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✅ TASK 2: Unemployment Analysis with Python

- Analyze **unemployment rate data** representing unemployed people percentage.
- Use Python for **data cleaning, exploration, and visualization** of unemployment trends.
- Investigate the impact of **Covid-19 on unemployment rates**.
- Identify key patterns or **seasonal trends** in the data.
- Present insights that could inform **economic or social policies**.
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✅ TASK 3: Car Price Prediction with Machine Learning

- Collect car-related features like **brand goodwill, horsepower, mileage**, etc.
- Train a **regression model** to predict car prices based on these features.
- Handle **data preprocessing, feature engineering, and model evaluation**
- Use Python libraries like **Pandas, Scikit-learn and Matplotlib** for the workflow.
- Understand real-world applications of **machine learning in price prediction**.
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✅ TASK 4: Sales Prediction using Python

- Predict future sales based on factors like **advertising spend, target segment and platform**.
- Prepare data through **cleaning, transformation and feature selection**.
- Use regression or time series models to **forecast sales**.
- Analyze how changes in advertising impact sales outcomes.
- Deliver actionable insights for **business marketing strategies**.
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🚨 Important Note

Internship Completion Criteria:
To be eligible for the internship certificate, participants must complete a minimum of **two or three tasks**.
Submitting only one task will be considered **incomplete** and certificates will **not** be issued in such cases.

📤 Submission Details

A submission form will be shared in your respective **WhatsApp group**. You are required to submit your completed task only through that form. Please follow the instructions mentioned in the form carefully to ensure your submission is accepted.

📞 Contact Information

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