**Project Report: Salary Prediction App**

**Overview**

The "Salary Prediction App" is a Streamlit application designed to estimate the salary of company employees based on two key inputs: years of experience in the company and job rating (JobRate). The app uses a machine learning model (Linear Regression) to make predictions based on the provided inputs.

**Objective**

The goal of this app is to provide salary predictions for employees, helping HR departments or other decision-makers estimate salary ranges based on specific factors. This app is built using Streamlit for the frontend interface and employs a pre-trained machine learning model (linearmodel.pkls) to make predictions.

**Functionality**

The app is divided into the following key components:

1. **Sidebar Navigation:**
   * The sidebar provides links to other apps or files that users can navigate to.
   * Links include:
     + **Sales Prediction:** Links to a sales prediction app hosted locally.
     + **AskMe:** Links to an AskMe feature.
2. **Main Page:**
   * **Title & Description:** The page is titled "Salary Prediction App" and includes a description of the functionality.
   * **Input Fields:**
     + **Years in Company:** Users can input the number of years an employee has been working at the company. This value is captured as an integer input.
     + **JobRate:** The user can enter the job rating of the employee, which is a float value. This rating affects the salary prediction.
3. **Salary Prediction Button:**
   * Users can click the "Press the button for salary prediction" button to trigger the salary prediction.
   * Upon pressing the button, the app uses the pre-loaded machine learning model (linearmodel.pkls) to make a salary prediction based on the user's inputs.
   * If the prediction is made, a **balloon animation** is triggered to celebrate the result.
4. **Prediction Logic:**
   * The input values are collected into an array X = [years, jobrate].
   * The input array is passed to the pre-trained machine learning model (linearmodel.pkls).
   * The model predicts the salary, which is then displayed to the user in a readable format with two decimal precision.

**Technology Stack**

* **Streamlit:** The app's interactive interface is powered by Streamlit, which allows rapid development of web applications with minimal effort.
* **Joblib:** Used for loading the pre-trained model (linearmodel.pkls).
* **Numpy:** Used to format the input data into an array that can be fed into the machine learning model.
* **Machine Learning Model:** A linear regression model (linearmodel.pkls) that has been pre-trained to make predictions based on the number of years in the company and the job rating.

**How it Works**

1. The user provides two inputs:
   * **Years in Company**: A numeric input for the number of years an employee has worked.
   * **JobRate**: A floating-point input for the job rating of the employee.
2. When the user clicks the "Press the button for salary prediction" button, the app loads the pre-trained machine learning model (linearmodel.pkls).
3. The model makes a prediction based on the inputs and the user sees the predicted salary, displayed with two decimal places.
4. The app also provides a celebratory animation when the prediction is displayed, providing a more engaging experience.

**Conclusion**

The Salary Prediction App is a useful tool for estimating employee salaries based on years of experience and job ratings. It leverages machine learning to provide predictions and is built using an easy-to-use interface with Streamlit. The app offers a straightforward yet effective solution for companies seeking to quickly estimate employee salaries.