**Objective:**

Deployment and maintenance of startup profit prediction web application. (DevOps)

**Dataset:**

The dataset that's we see here contains data about 50 startups. The first 3 columns indicate how much each startup spends on Research and Development, how much they spend on Marketing, and how much they spend on administration cost, the state column indicates which state the startup is based in, and the last column states the profit made by the startups.

It has 5 columns:

* R&D Spend
* Administration
* Marketing Spend
* State
* Profit

**Why Startup Profit Prediction:**

Starups at early stages needs to manage their funds very carefully so that they can turn their investment into profits it is very important to analyze and understand the market and the other businesses and do make a decision that what should be the spending of the company. So our web application predicts the profit based on the spending in R&D, administration and marketing to predict the profit of the startups which is done by the machine learning model working in our web application.

**Technologies/ Tool:**

VScode, Github , Heroku

Libraries / Languages: Python, HTML, CSS, Flask, pickle, Numpy, pandas, sklearn

**Theory:**

DevOps is the combination of cultural philosophies, practices, and tools that increases an organization’s ability to deliver applications and services at high velocity: evolving and improving products at a faster pace than organizations using traditional software development and infrastructure management processes. This speed enables organizations to better serve their customers and compete more effectively in the market.

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**Our Work:**

**ML Model :**

We created a machine learning model using linear regression on the dataset mentioned above to predict the profit based on the spending in different areas by the startups.

**Web Application:**

Frontend of the web application is created using HTML and CSS and the backend of the website is made using python the machine learning model is integrated in the website using the pickle model this model will help us predicting the profit for startups.

**Deployment:**

We deployed our web application using Heroku from Github.

**Maintenance:**

We can maintain our website using Github itself the changes made can be pushed into github from where the changes can further be pushed to Heroku which will update our application.