REVOLUTIONIZING AUTO INSURANCE WITH
AI-DRIVEN PREMIUM CALCULATION

INTRODUCTION
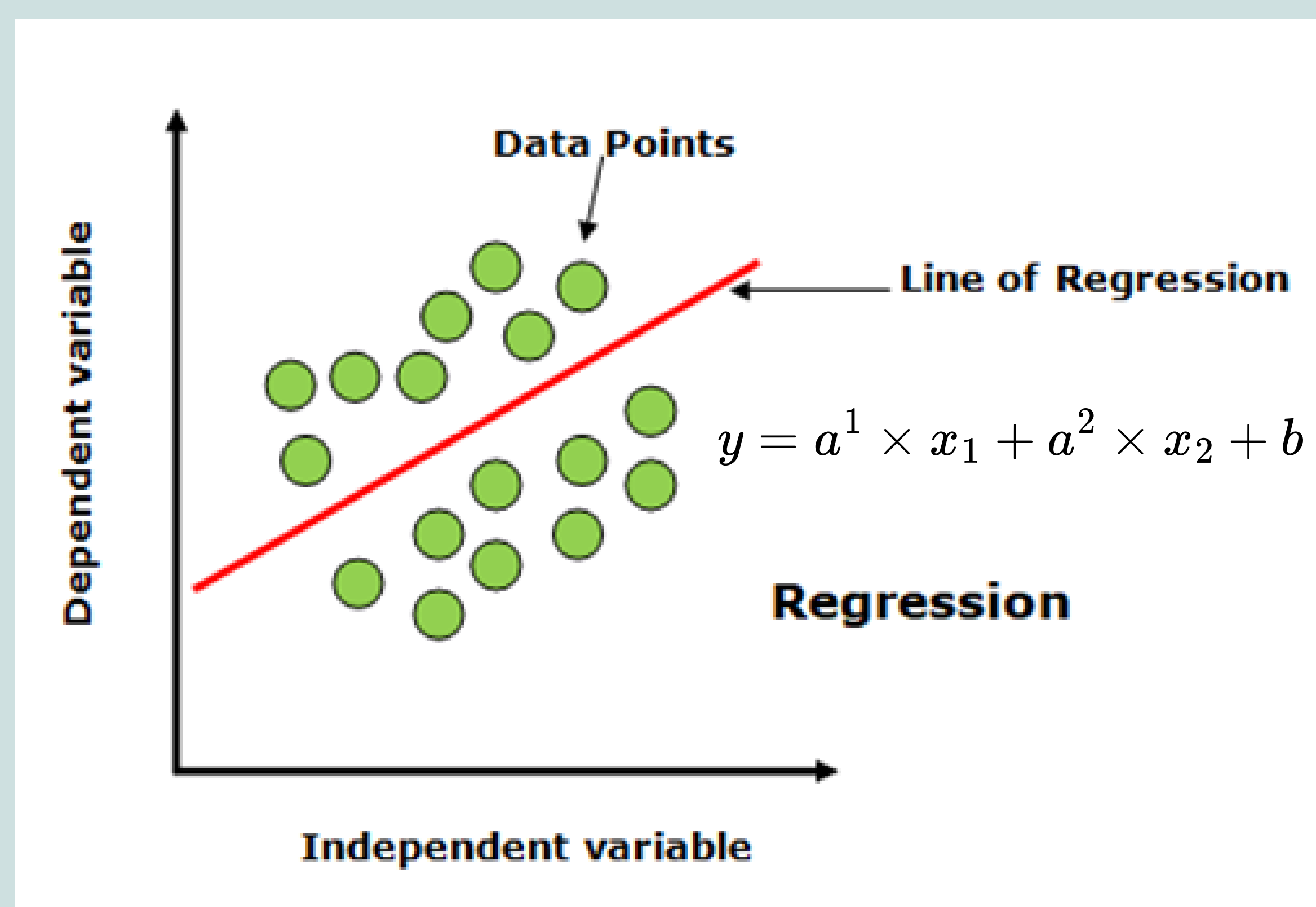
RESULT

Time Consuming!

UPGRADE

AI

Machine Learning
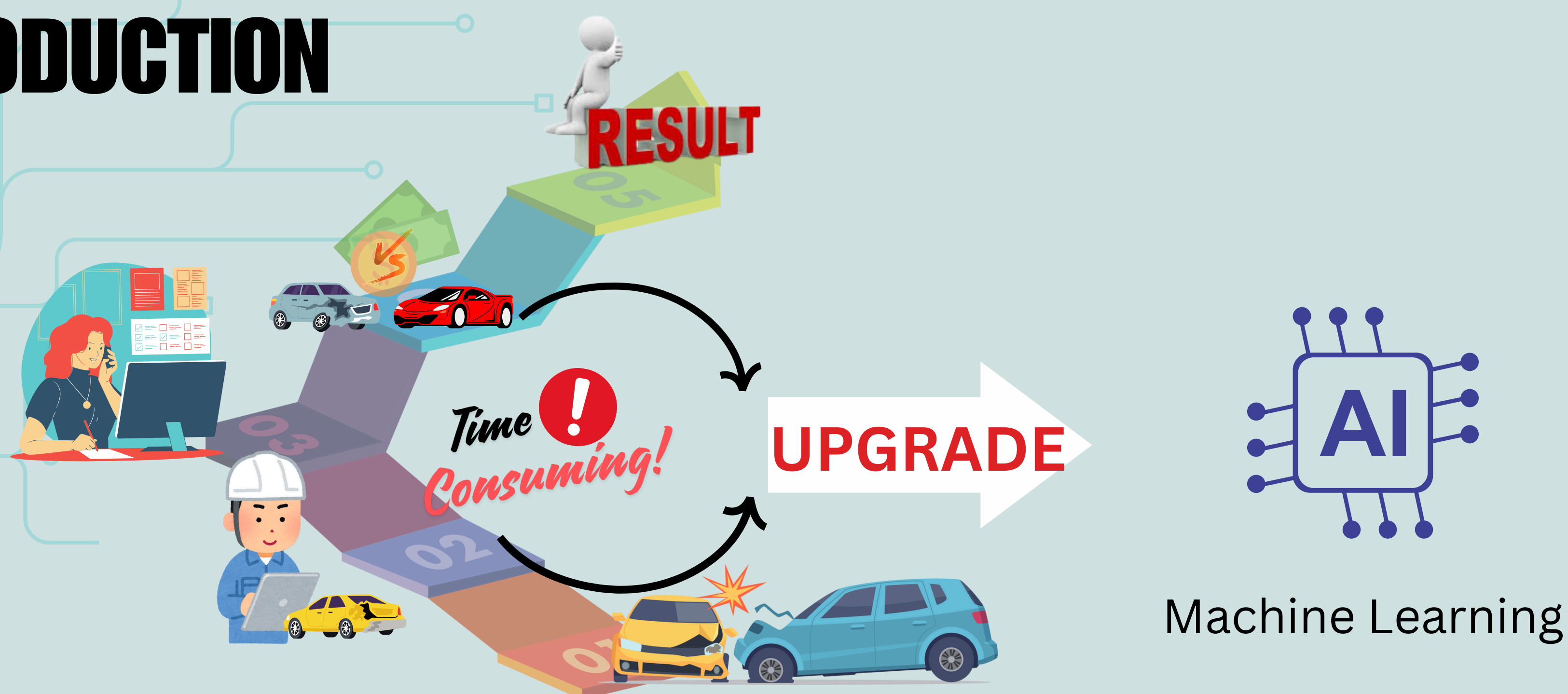
OBJECTIVE

1. Building the linear regression model

2. Collecting data for use in modeling

3. Developing car price calculator app

DATA & METHOD

- Collecting data from online car buying and selling websites.

- The goal is to find the coefficients a¹, a², b for each data set (each vehicle type)

- Use the scikit-learn package and tkinter with the python programming language to build the model and graphical user interface.

Data Points

Line of Regression

$$y = a^1 \times x_1 + a^2 \times x_2 + b$$

Dependent variable

Independent variable

Regression

RESULTS

Model

- From data for each car model, the linear regression models is used to obtain equation coefficients.
- These coefficients is used as "input" of application

3D graph shows the linear regression plane

How to use application

- Select the car's year of manufacture and the car version.
- Enter the distance the car has traveled and the level of damage.
- Press calculate and the car price will be displayed

Application interface

Car price calculator

Year of Manufacture

Car Model

Distance Traveled (x10000km)

Damage Level

KIYo 4i

Calculate
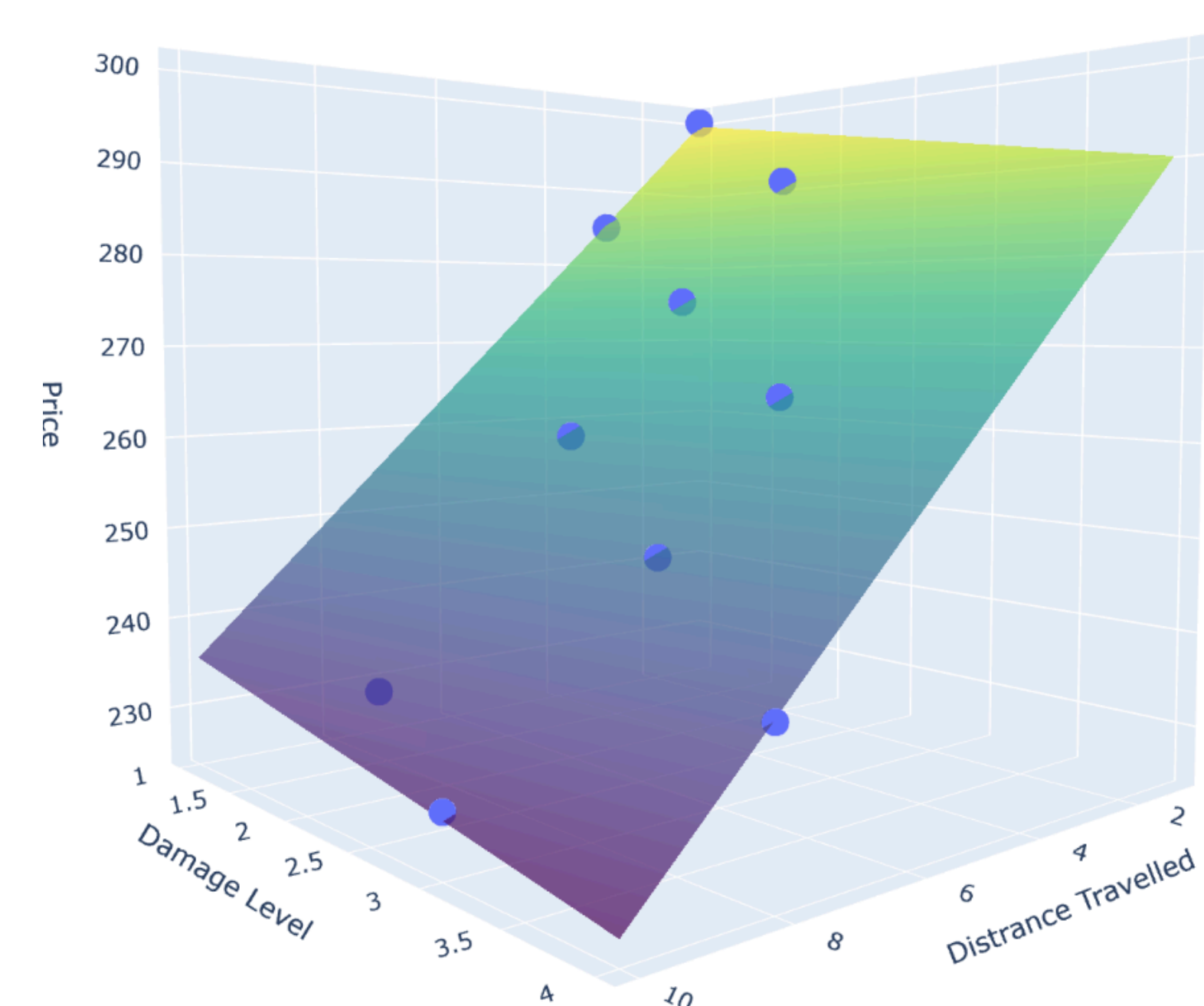
Screenshot of coding

```
main.py        ×   +                                    ☐ Format
main.py
    4      from PIL import Image, ImageTk
    5
    6
    7
    8      def func():
    9          car_select = car_var.get()
   10          time_select = time_var.get()
   11
   12          if car_select in car and time_select:
   13              a1, a2, b = car[car_select]
   14
   15              x1 = float(quangduong_entry.get())
   16              x2 = float(dohuhong_entry.get())
   17              price = (b + a1 * x1 + a2 * x2)
   18              price = round(price, 2)
   19
```

Output   ×   +

Car price calculator

Year of Manufacture

2017

Car Model

Honda CRV 2.0 AT 2017

Distance Traveled (x10000km)

3

Damage Level

4

Calculate

The car price is: 578.7 million VND

CONCLUSION

Our app makes it easy to find out what a used car is worth. We use real data and a smart model to predict a fair price, helping both buyers and sellers make good decisions. This also helps car insurance companies offer accurate quotes.

FUTURE DEVELOPMENT

- Improve our app by adding more features, such as the car's color and where it was used.
- Make the app even easier to use.