

Configuration Manual

MSc Research Project
Data Analytics

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MSc Project Submission Sheet
School of Computing



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Programme: MSc Data Analytics..... **Year:** 2025-2026....
Module: MSc (Research) Practicum.....
Lecturer: Vikas Tomer.....
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Date: 11.12.2025.....

PLEASE READ THE FOLLOWING INSTRUCTIONS AND CHECKLIST

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Configuration Manual

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1. Authorizing Colab to access files in Google Drive

Step 1: Launch the colab environment

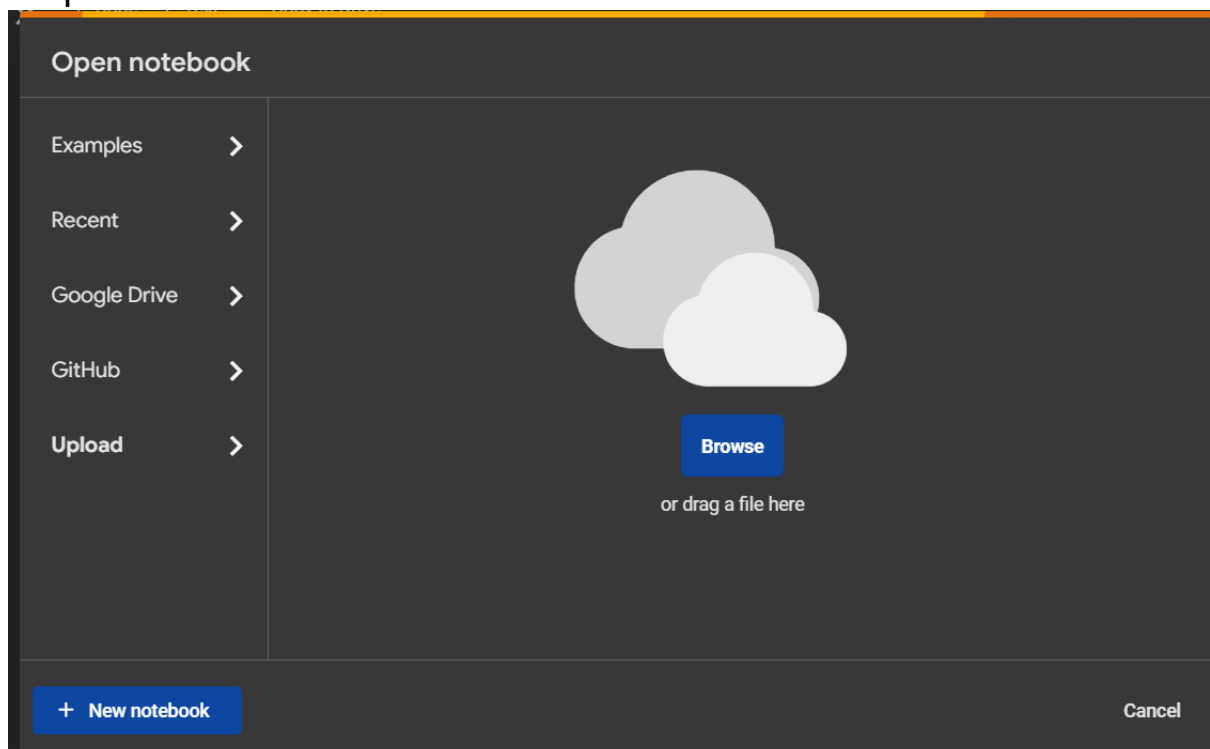
Step 2: Navigate the google colab website using google

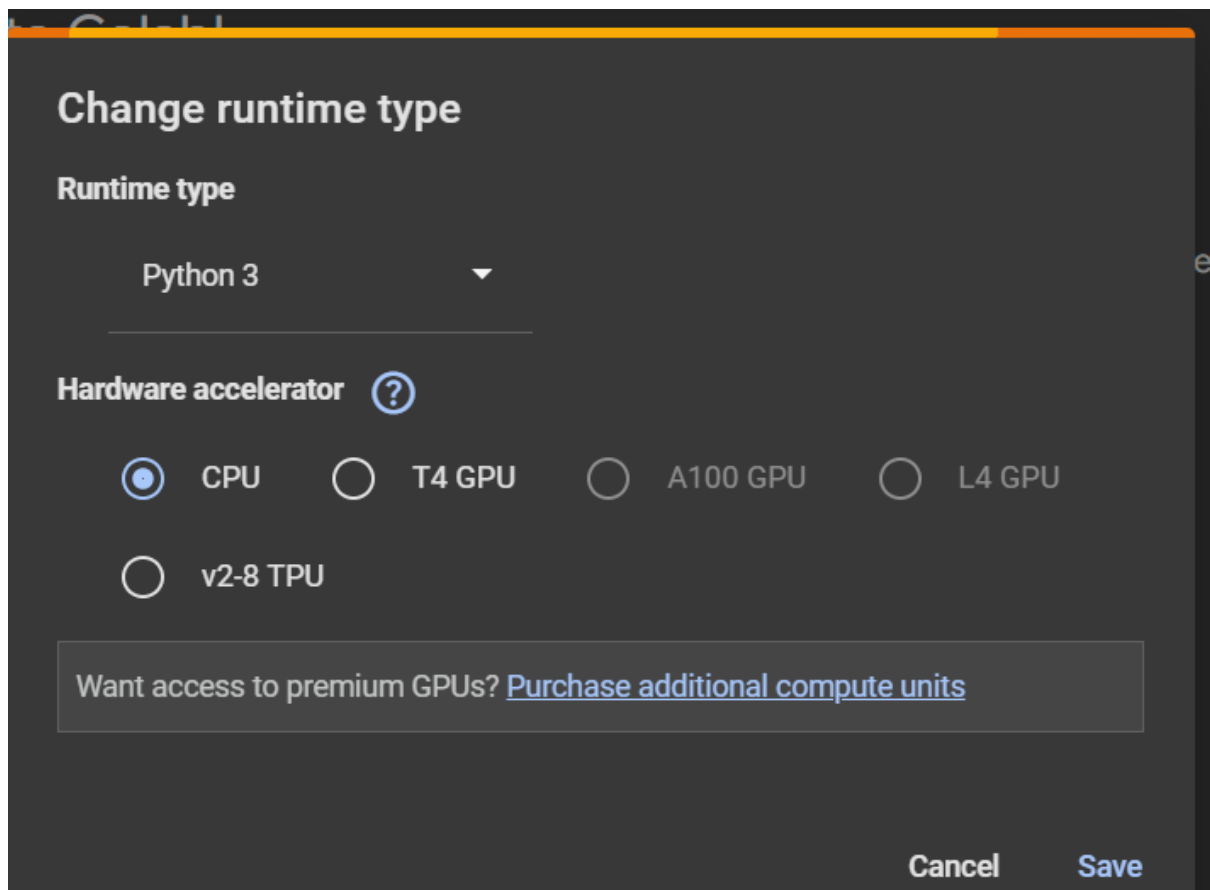
Step 3: Now upload the File

1. Upload the ipynb or py files

Step 4: From Runtime change the GPU acceleration

Step 5: Save the runtime for next use





2. Starting the session

Step 1: Now open the google and launch the google colab

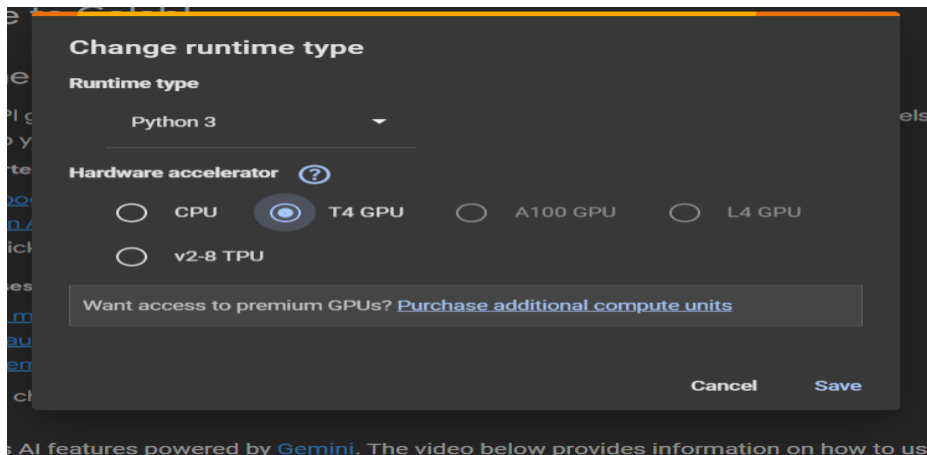
Step 2: Login into the mail

Step 3: Open new / saved configuration file

Step 5 : Activate the GPU

Step 6 : Upload the Notebook

1. Open the Data processing note book
2. Now repeat above steps and open modeling now



3. Data ingestion and loading

Step 1: Data Preparation

Change the API key for the access of the data generation

```

1 # 1. Install & import libraries
2 !pip install -q datasets pandas huggingface_hub
3
4 from datasets import load_dataset
5 from huggingface_hub import login
6 import pandas as pd
7 from google.colab import userdata
8
9 # 2. Authenticate with Hugging Face using your token
10 hf_token = userdata.get('HF_TOKEN')
11 login(token=hf_token)
12
13 # 3. Load the *labeled* subset of HateBenchSet
14 dataset = load_dataset("TrustAIRLab/HateBenchSet", "labeled")
15
16 # The dataset is a DatasetDict with a 'train' split
17 train_ds = dataset["train"]
18
19 # 4. Convert to pandas DataFrame
20 df = train_ds.to_pandas()
21
22 # 5. Save to CSV
23 csv_path = "HateBenchSet_labeled_train.csv"
24 df.to_csv(csv_path, index=False)

```

```

5 # Set up OpenAI API key directly
6 API_KEY = 'sk-proj-ItcdnObUi7_m-bJk8IDiYdtrpWJwnGz5y8goCM80A2cTFRVMA-mrhlzE9KfnhhIMSmEasPBNeT3B1bkFJbyCAtuNDvOyjY2rwGj29s5uUcwLKwd13RW'
7
8 # Create OpenAI client
9 client = OpenAI(api_key=API_KEY)
10
11 # Test the API connection with a simple call
12 print("Testing o3-mini connection...")
13 test_response = client.responses.create(
14     model="o3-mini-2025-01-31",
15     reasoning={"effort": "medium"},
16     input=[{
17         "role": "user",
18         "content": "What is 2+2 ? "
19     }],
20     max_output_tokens=1000
21 )
22
23 print(test_response)
24 print("Connection successful!")
25 print(f"Test response: {test_response.output_text}")
26 print(f"Tokens used: {test_response.usage.total_tokens}")
27
28

```

Step 2: Load the data into the notebook

1. Change the drive path for the access of the data set

```
1 # Load CSV from Google Drive, show columns info + 3 sample rows
2
3 import pandas as pd
4
5 path = "/content/drive/MyDrive/HateBench_Reasoning/dataset/hatebench_with_reasoning_final.csv"
6
7 # Read (keep_default_na=False avoids turning empty strings into NaN; remove if you don't want this)
8 df = pd.read_csv(path, encoding="utf-8", keep_default_na=False)
9
10 print(" Loaded:", path)
11 print("Shape:", df.shape)
12
13 print("\n--- Columns (with dtype + non-null counts) ---")
14 print(df.info())
15
16 print("\n--- Column names ---")
17 print(list(df.columns))
18
19 print("\n--- 3 sample rows ---")
20 display(df.head(3))
21
```

Loaded: /content/drive/MyDrive/HateBench_Reasoning/dataset/hatebench_with_reasoning_final.csv
Shape: (7838, 11)

4. Final outcomes

```
[HATE ] (0.992) - They should go back to where they came from!...

=====
EXPERIMENT SUMMARY
=====

Dataset: 7838 samples
Train: 5486 | Val: 1176 | Test: 1176

🔗 Model: answerdotai/ModernBERT-base
Max Length: 512

Test Results:
Accuracy: 0.9124
F1 Score: 0.9123

=====
EXPERIMENT COMPLETE!
=====
```

5 References

Google Colab. (n.d.). <https://colab.research.google.com/>

Albladi, A., Islam, M., Das, A., Bigonah, M., Zhang, Z., Jamshidi, F., Rahgouy, M., Raychawdhary, N., Marghitu, D., & Seals, C. (2025). Hate speech detection using large language models: A comprehensive review. *IEEE Access*, 13, 1-15. <https://doi.org/10.1109/access.2025.3532397>

