

Portfolio

Rafi Gumilang

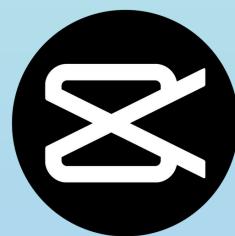
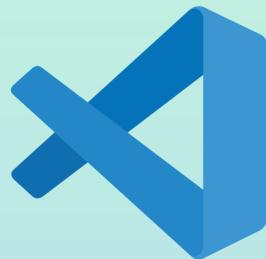
About Me

Hi,
I am Rafi!



I am a final year undergraduate Physics student at the University of Indonesia, specializing in Instrumentation Physics. I have experience in the fields of machine learning, web development and have created applications while I participated in the Bangkit Academy program led by Google, Tokopedia, Gojek, & Traveloka. This allows me to work in a team in a fast-paced environment and requires good communication. Currently, I am looking for new opportunities to expand my knowledge and skills as a data analyst and machine learning.

Tools



G Suite

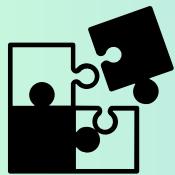


Gmail

Skills



Critical Thinking



Problem Solving



Time Management



Leadership



Project Management



Programming



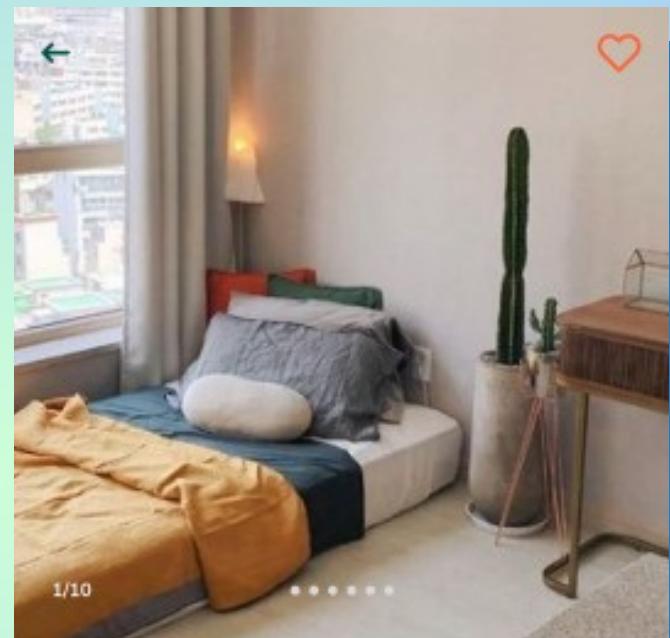
Public Speaking



Content Writing

Project Management

Kostify(An Android App for Boarding House Rental)



Campur

Rp1.420.000/bulan

Spesifikasi Tipe Kamar

- 3.2 x 3.2 Meter
- Termasuk Listrik

Fasilitas Kamar

- AC
- Kasur
- Lemari
- Wifi

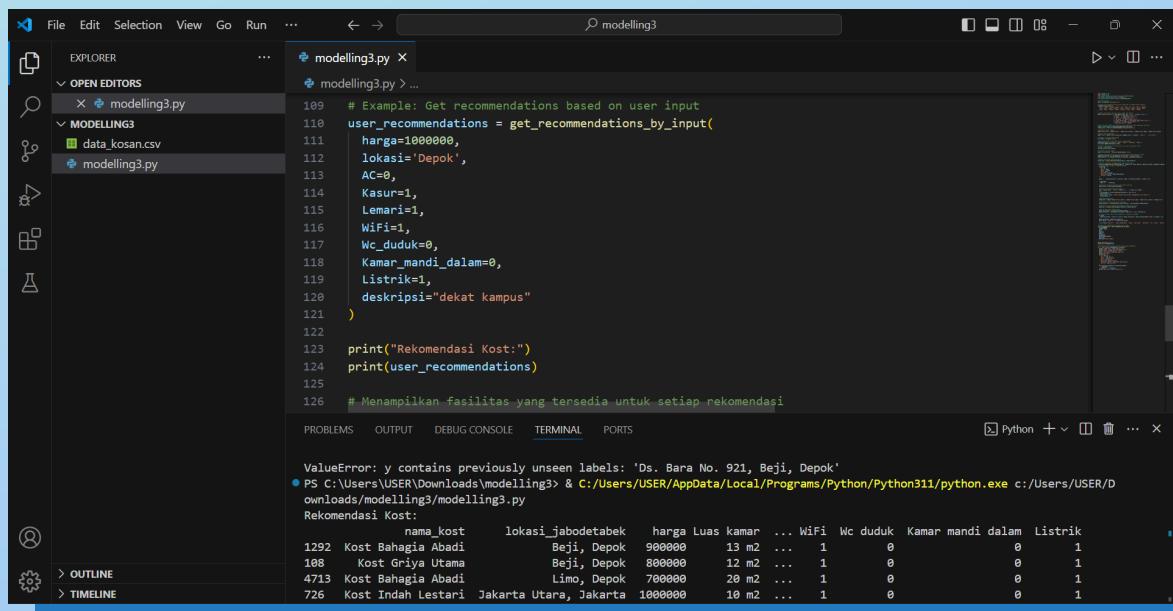
Fasilitas Kamar Mandi

- K. Mandi Dalam
- Kloset Duduk

Project Management

Coding

```
 1 import pandas as pd
 2 import numpy as np
 3 from sklearn.feature_extraction.text import TfidfVectorizer
 4 from sklearn.preprocessing import LabelEncoder
 5 from sklearn.metrics.pairwise import cosine_similarity
 6 import tensorflow as tf
 7 from tensorflow.keras import layers
 8 from tensorflow.keras import Model
 9
10 # Load the new dataset
11 data = pd.read_csv('data_kosan.csv')
12
13 # Custom list of Indonesian stop words (simplified for demonstration purposes)
14 indonesian_stop_words = [
15     "yang", "untuk", "dengan", "pada", "ini", "dan", "di", "ke", "dari", "adalah",
16     "itu", "atau", "oleh", "seperti", "jika", "karena", "sudah", "dalam", "akan",
17     "juga", "kami", "sangat", "hanya", "mereka", "saja", "agar", "tetapi"
18 ]
19
20 # Combine the relevant features into a single text feature
21 data['combined_features'] = data.apply(lambda row: f"{'AC' if row['AC'] else ''} "
22                                         f"{'Kasur' if row['Kasur'] else ''} "
23                                         f"{'Lemari' if row['Lemari'] else ''} "
24                                         f"{'WiFi' if row['WiFi'] else ''} "
```



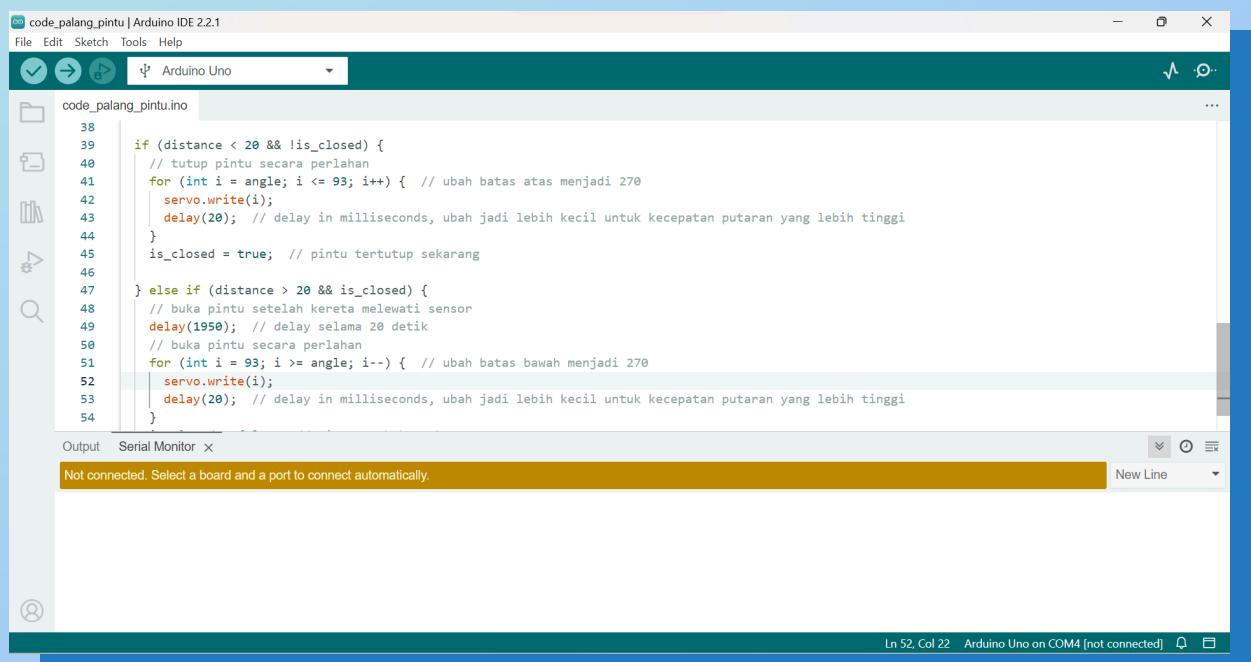
```
File Edit Selection View Go Run ... ⏪ modelling3.py
EXPLORER OPEN EDITORS
  modelling3.py ...
  modelling3.py > ...
  MODELLING3
    data_kosan.csv
    modelling3.py
109 # Example: Get recommendations based on user input
110 user_recommendations = get_recommendations_by_input(
111     harga=1000000,
112     lokasi='Depok',
113     AC=0,
114     Kasur=1,
115     Lemari=1,
116     WiFi=1,
117     Wc_duduk=0,
118     Kamar_mandi_dalam=0,
119     Listrik=1,
120     deskripsi="dekat kampus"
121 )
122
123 print("Rekomendasi Kost:")
124 print(user_recommendations)
125
126 # Menampilkan fasilitas yang tersedia untuk setiap rekomendasi
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
ValueError: y contains previously unseen labels: 'Ds. Bara No. 921, Beji, Depok'
PS C:\Users\USER\Downloads\modeling3> & C:/Users/USER/AppData/Local/Programs/Python/Python311/python.exe c:/Users/USER/Downloads/modeling3/modelling3.py
Rekomendasi Kost:
  nama_kost lokasi_jabodetabek harga Luas_Kamar ... WiFi Wc_duduk Kamar_mandi_dalam Listrik
1292 Kost Bahagia Abadi Beji, Depok 900000 13 m2 ... 1 0 0 1
108 Kost Gria Utama Beji, Depok 800000 12 m2 ... 1 0 0 1
4713 Kost Bahagia Abadi Limo, Depok 700000 20 m2 ... 1 0 0 1
726 Kost Indah Lestari Jakarta Utara, Jakarta 1000000 10 m2 ... 1 0 0 1
```

Programing

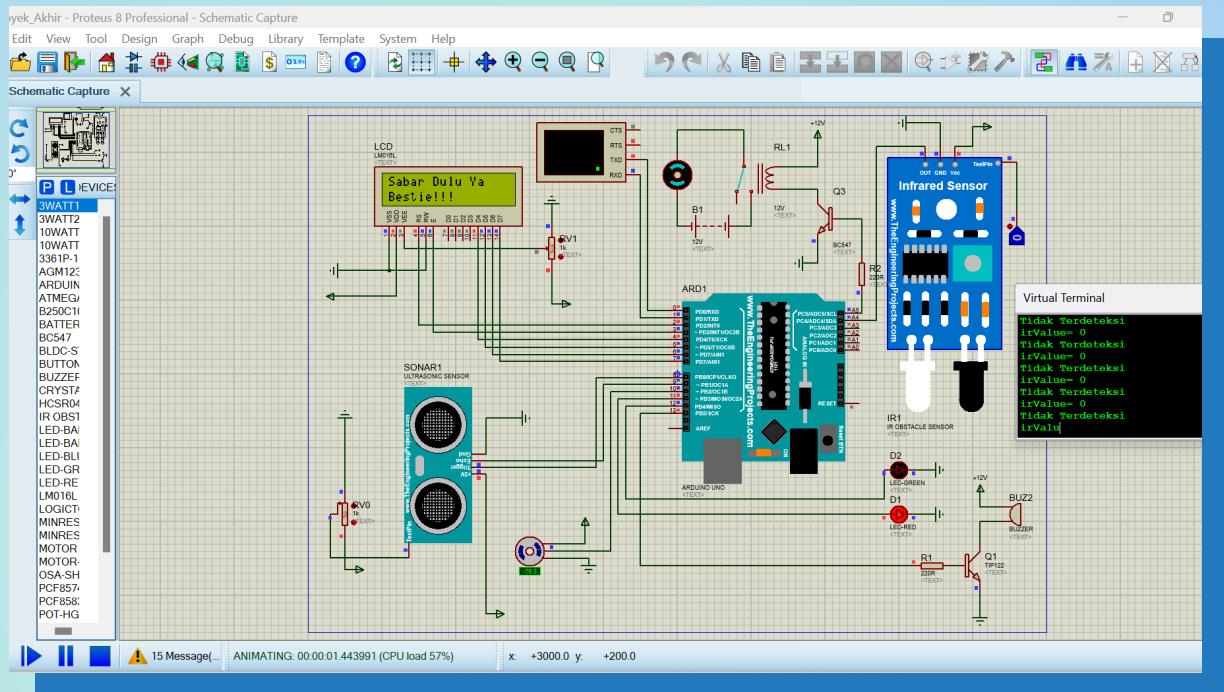
Project



```
code_palang_pintu.ino | Arduino IDE 2.2.1
File Edit Sketch Tools Help
Arduino Uno
code_palang_pintu.ino
38
39 if (distance < 20 && !is_closed) {
40     // tutup pintu secara perlahan
41     for (int i = angle; i <= 93; i++) { // ubah batas atas menjadi 270
42         servo.write(i);
43         delay(20); // delay in milliseconds, ubah jadi lebih kecil untuk kecepatan putaran yang lebih tinggi
44     }
45     is_closed = true; // pintu tertutup sekarang
46
47 } else if (distance > 20 && is_closed) {
48     // buka pintu setelah kereta melewati sensor
49     delay(1950); // delay selama 20 detik
50     // buka pintu secara perlahan
51     for (int i = 93; i >= angle; i--) { // ubah batas bawah menjadi 270
52         servo.write(i);
53         delay(20); // delay in milliseconds, ubah jadi lebih kecil untuk kecepatan putaran yang lebih tinggi
54     }
}
Output Serial Monitor x
Not connected. Select a board and a port to connect automatically.
Ln 52, Col 22 Arduino Uno on COM4 [not connected] New Line
```

Programming

Simulation and Miniature

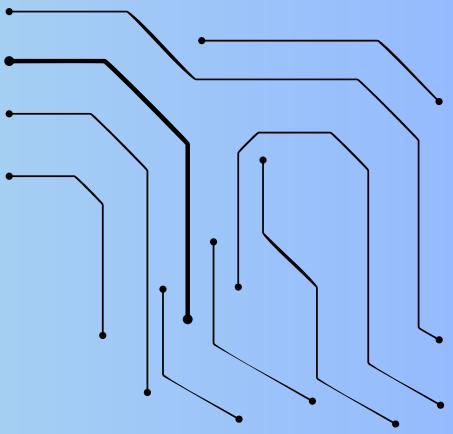


Programming

Data analysis



Programming



Simulasi Ujian TensorFlow Developer

File Edit Selection View Go Run ...

OPEN EDITORS

SUBMISSION C

model_C1.h5

model_C2.h5

model_C3.h5

model_C4.h5

model_C5.h5

Problem_C1.py

Problem_C2.py

Problem_C3.py

Problem_C4.py

Problem_C5.py

File Edit Selection View Go Run ...

OPEN EDITORS

SUBMISSION C

model_C1.h5

model_C2.h5

model_C3.h5

model_C4.h5

model_C5.h5

Problem_C1.py

Problem_C2.py

Problem_C3.py

Problem_C4.py

Problem_C5.py

Problem_C3.py 2

Problem_C4.py 2

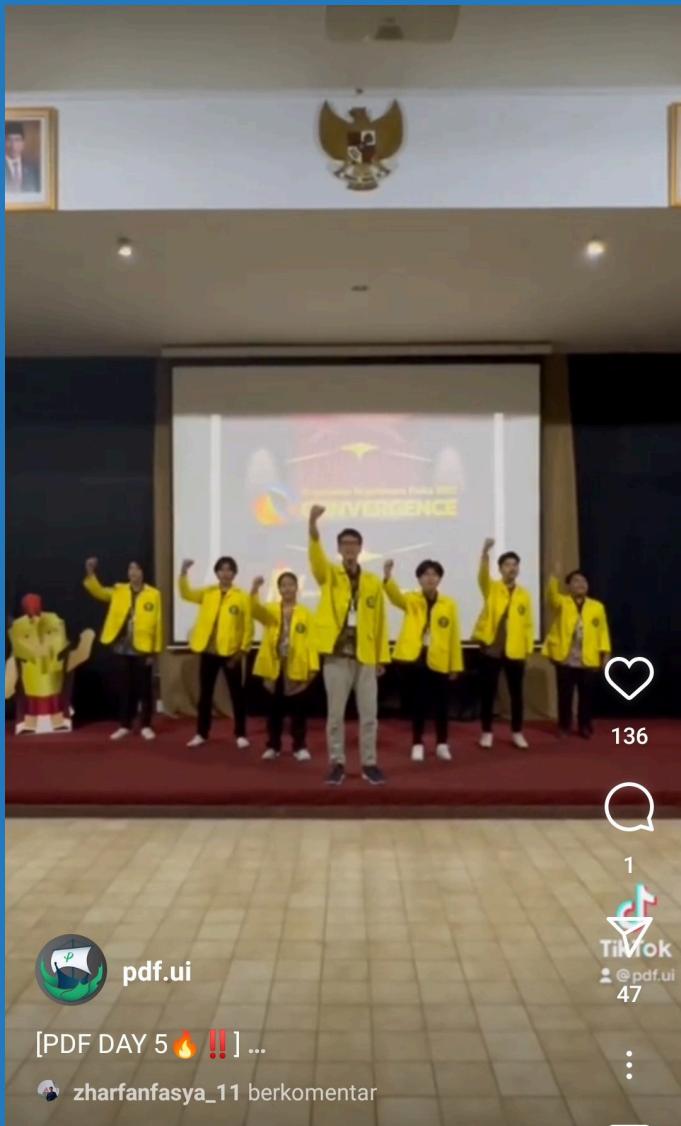
```
1 # =====
2 # PROBLEM C3
3 #
4 # Build a CNN based classifier for Cats vs Dogs dataset.
5 # Your input layer should accept 150x150 with 3 bytes color as the input shape.
6 # This is unlabeled data, use ImageDataGenerator to automatically label it.
7 # Don't use lambda layers in your model.
8 #
9 # The dataset used in this problem is originally published in https://www.kaggle.com/c/dogs-vs-cats/data
10 #
11 # Desired accuracy and validation_accuracy > 72%
12 # =====
13
14 import tensorflow as tf
15 import urllib.request
16 import zipfile
17 import tensorflow as tf
18 import os
19 from tensorflow.keras.optimizers import RMSprop
20 from tensorflow.keras.preprocessing.image import ImageDataGenerator
21
22
23 class myCallback(tf.keras.callbacks.Callback):
24     def on_epoch_end(self, epoch, logs={}):
25         if (logs.get('accuracy') > 0.73 and logs.get('val_accuracy') > 0.73):
26             self.model.stop_training = True
27
28
29 def solution_C3():

```

```
1 # =====
2 # PROBLEM C4
3 #
4 # Build and train a classifier for the sarcasm dataset.
5 # The classifier should have a final layer with 1 neuron activated by sigmoid.
6 #
7 # Do not use lambda layers in your model.
8 #
9 # Dataset used in this problem is built by Rishabh Misra (https://rishabhmisra.github.io/publications).
10 #
11 # Desired accuracy and validation_accuracy > 75%
12 # =====
13
14 import json
15 import tensorflow as tf
16 import numpy as np
17 import urllib
18 from tensorflow.keras.preprocessing.text import Tokenizer
19 from tensorflow.keras.preprocessing.sequence import pad_sequences
20
21
22 class myCallback(tf.keras.callbacks.Callback):
23     def on_epoch_end(self, epoch, logs={}):
24         if (logs.get('accuracy') > 0.77 and logs.get('val_accuracy') > 0.77):
25             self.model.stop_training = True
26
27
28 def solution_C4():
29     data_url = 'https://github.com/dicodingacademy/assets/raw/main/Simulation/machine\_learning/sarcasm.json'
```

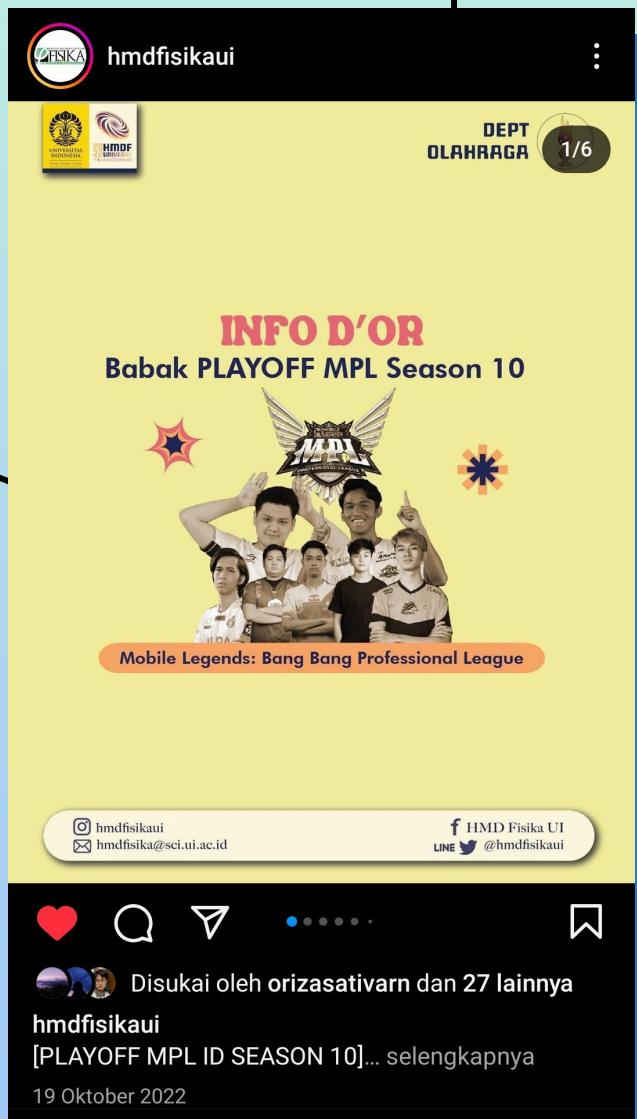
Public Speaking

Giving orations and teaching
at high school



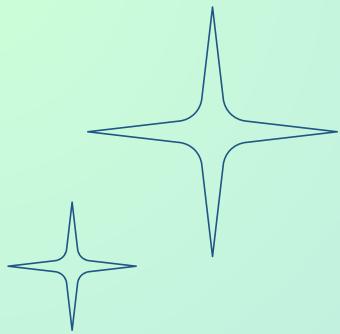
Content Writing

Article



Destinasi populer
terbaru di Jakarta:
**Pantai Indah
Kapuk menjadi
incaran semua
orang!**





Thank you!

Let's get in touch with me through:



rafigumilang8@gmail.com



[http://www.linkedin.com/in/
rafigumilang](http://www.linkedin.com/in/rafigumilang)



087820505374