

RAGATHON CHALLENGE: MUTUAL FUND PERFORMANCE INSIGHTS APPLICATION

1. USAGE GUIDELINES.

Steps to run this project on local system

- a. Clone the repository
- b. The dataextraction.py file is run once at the start to generate mutualfunds.csv using the RAGathon Datasets provided in <https://aiordinate.com/iitm-ragathon>:
 - MF Data - March 2022 - April 2021.pdf
 - MF Data - March 2023 - April 2022.pdf
 - MF Data - March 2024 - April 2023.pdf
- c. Then run streamlit_app.py using the command:


```
streamlit run streamlit_app.py
```
- d. The app opens at <http://localhost:8501/>

Steps to use the app

- a. Use the tabs to navigate to various functionalities : Generate report, Visualize data, Upload reports and Report PDFs
- b. Generate report tab:

Choose the required schemes and fields to display the respective report. It could be downloaded as a csv file by clicking the download button at the top of the dataframe.
- c. Visualize data tab:

Choose the required schemes and fields to generate a line chart.
- d. Upload reports tab:

Choose one or more report pdfs and click update data to add its data to original dataset generated.

e. Report PDFs tab:

View all the uploaded pdf and click the button to download them and delete button to delete all the reports.

f. Dataset tab:

View the entire dataframe extracted from all the report pdfs. Click clear dataset button to delete all data.

2. AN OVERVIEW OF THE APPLICATION'S FEATURES AND FUNCTIONALITIES.

Scheme Selection:

- Implement a selection tool that allows users to choose one or multiple mutual fund schemes. This feature enables tailored data retrieval, catering to specific user interests or analysis requirements.

Single scheme

Deploy

RAGathon Challenge: Mutual Fund Performance Insights Application

Generate reportVisualize dataUpload reportsReport PDFsDataset

Generate report in csv format

Get data based on

☒ Scheme name

☐ Scheme type

☐ Scheme subtype

Select the scheme names

Childrens Fund

☒ Display all the fields

	sino	Scheme Name	Scheme Type	Scheme Subtype	No. of Schemes	No. of Folios	Funds Mobilized (INR in crore)	Repurchase/Redemption (INR in crore)	Net Assets Under Management (INR
0	1	Childrens Fund	Open ended Schemes	Solution Oriented Schemes	10	2,882,643	61.87	37.22	
1	2	Childrens Fund	Open ended Schemes	Solution Oriented Schemes	10	2,882,518	55.13	21.64	1
2	3	Childrens Fund	Open ended Schemes	Solution Oriented Schemes	10	2,882,036	84.1	41.42	1
3	4	Childrens Fund	Open ended Schemes	Solution Oriented Schemes	10	2,882,059	87.73	50.55	1
4	5	Childrens Fund	Open ended Schemes	Solution Oriented Schemes	10	2,881,269	79.41	67	1

Multiple scheme

Deploy

RAGathon Challenge: Mutual Fund Performance Insights Application

[Generate report](#)[Visualize data](#)[Upload reports](#)[Report PDFs](#)[Dataset](#)

Generate report in csv format

Get data based on

☒ Scheme name☐ Scheme type☐ Scheme subtype

Select the scheme names

Childrens FundLiquid FundShort Duration F...

☒ Display all the fields

	sino	Scheme Name	Scheme Type	Scheme Subtype	No. of Schemes	No. of Folios	Funds Mobilized (INR in crore)	Repurchase/Redemption (INR in crore)	Net Assets Under Management (INR
0	1	Childrens Fund	Open ended Schemes	Solution Oriented Schemes	10	2,882,643	61.87	37.22	
1	2	Short Duration F	Open ended Schemes	Income/Debt Oriented Scher	26	640,697	7,197.07	5,950.55	14
2	3	Liquid Fund	Open ended Schemes	Income/Debt Oriented Scher	39	2,176,989	252,669.62	211,162.15	3
3	4	Childrens Fund	Open ended Schemes	Solution Oriented Schemes	10	2,882,518	55.13	21.64	1
4	5	Liquid Fund	Open ended Schemes	Income/Debt Oriented Scher	39	2,173,170	198,554.21	244,001.57	33

Scheme type

localhost:8501

Deploy

RAGathon Challenge: Mutual Fund Performance Insights Application

[Generate report](#)[Visualize data](#)[Upload reports](#)[Report PDFs](#)[Dataset](#)

Generate report in csv format

Get data based on

☐ Scheme name☒ Scheme type☐ Scheme subtype

Select the scheme types

Open ended Sch...

☒ Display all the fields

Download as CSV

	sino	month and year	No. of Schemes	No. of Folios	Funds Mobilized (INR in crore)	Repurchase/Redemption (INR in crore)	Net Assets Under Management (INR in crore)	Average Net Assets Under Management (INR
0	1	04-2021	1,017	97,162,870	664,603.93	546,483.97	3,113,949.09	3.
1	2	05-2021	1,027	99,070,493	592,378.2	611,190.42	3,199,815.58	3.
2	3	06-2021	1,032	101,426,131	705,373.86	677,511.19	3,275,690.77	3.
3	4	07-2021	1,043	104,445,101	793,388.76	667,467.71	3,453,633.91	3.

Scheme subtype

←→🔄📍localhost:8501

☆📄👤⋮

Deploy⋮

RAGathon Challenge: Mutual Fund Performance Insights Application

[Generate report](#)[Visualize data](#)[Upload reports](#)[Report PDFs](#)[Dataset](#)

Generate report in csv format

Get data based on

☐ Scheme name

☐ Scheme type

☒ Scheme subtype

Select the scheme subtypes

Income/Debt Ori...✕

☒ Display all the fields

	slno	month and year	No. of Schemes	No. of Folios	Funds Mobilized (INR in crore)	Repurchase/Redemption (INR in crore)	Net Assets Under Management (INR in crore)	Average Net Assets Under Management (INI
0	1	04-2021	313	7,863,761	614,710.16	513,806.67	1,418,550.88	1,418,370.85
1	2	05-2021	313	7,880,160	537,144.4	581,656.45	1,379,607.85	1,422,390.79
2	3	06-2021	313	7,869,942	642,683.99	639,117.59	1,386,184.5	1,435,469.62
3	4	07-2021	317	7,828,089	704,824.36	631,130.33	1,466,222.8	1,472,870.58
4	5	08-2021	320	7,754,729	679,065.56	677,991.11	1,474,691.2	1,485,828.42
5	6	09-2021	320	7,761,010	707,522.95	771,433.16	1,415,416.63	1,486,995

Fullscreen

	slno	month and year	No. of Schemes	No. of Folios	Funds Mobilized (INR in crore)	Repurchase/Redemption (INR in crore)	Net Assets Under Management (INR in crore)	Average Net Assets Under Management (INR in crore)	No. of segments
0	1	04-2021	313	7,863,761	614,710.16	513,806.67	1,418,550.88	1,418,370.85	
1	2	05-2021	313	7,880,160	537,144.4	581,656.45	1,379,607.85	1,422,390.79	
2	3	06-2021	313	7,869,942	642,683.99	639,117.59	1,386,184.5	1,435,469.62	
3	4	07-2021	317	7,828,089	704,824.36	631,130.33	1,466,222.8	1,472,870.58	
4	5	08-2021	320	7,754,729	679,065.56	677,991.11	1,474,691.2	1,485,828.42	
5	6	09-2021	320	7,761,010	707,522.95	771,433.16	1,415,416.63	1,486,995	
6	7	10-2021	320	7,699,501	678,202.81	665,218.42	1,431,330.08	1,489,487.12	
7	8	11-2021	320	7,619,791	736,106.86	721,213.79	1,452,048.31	1,491,191.83	
8	9	12-2021	317	7,621,868	830,309.19	879,346.74	1,404,844.04	1,448,882.77	
9	10	01-2022	317	7,529,260	716,119.83	711,032.21	1,413,344.86	1,462,229.76	
10	11	02-2022	317	7,455,476	685,643.54	693,917.84	1,409,397.13	1,459,162.65	
11	12	03-2022	312	7,386,732	892,300.75	1,007,124.51	1,298,961.06	1,378,257.28	
12	13	04-2022	312	7,343,809	743,606.63	688,850.03	1,355,576.73	1,391,308.86	
13	14	05-2022	312	7,287,526	772,350.43	805,072.67	1,322,273.64	1,362,084.65	
14	15	06-2022	312	7,269,631	867,259.83	959,507.48	1,234,073.79	1,347,867.4	
15	16	07-2022	311	7,246,237	777,274.75	772,344.69	1,246,425.8	1,333,684.79	
16	17	08-2022	320	7,232,956	830,437.23	781,272.97	1,303,233.63	1,340,153.55	
17	18	09-2022	317	7,205,006	903,783.12	969,155.52	1,241,674.07	1,332,235.89	

Search data

localhost:8501

1 of 1 result

06-2023

	slno	month and year	No. of Schemes	No. of Folios	Funds Mobilized (INR in crore)	Repurchase/Redemption (INR in crore)	Net Assets Under Management (INR in crore)	Average Net	
9	10	01-2022	317	7,529,260	716,119.83	711,032.21	1,413,344.86		
10	11	02-2022	317	7,455,476	685,643.54	693,917.84	1,409,397.13	1,459,162.65	
11	12	03-2022	312	7,386,732	892,300.75	1,007,124.51	1,298,961.06	1,378,257.28	
12	13	04-2022	312	7,343,809	743,606.63	688,850.03	1,355,576.73	1,391,308.86	
13	14	05-2022	312	7,287,526	772,350.43	805,072.67	1,322,273.64	1,362,084.65	
14	15	06-2022	312	7,269,631	867,259.83	959,507.48	1,234,073.79	1,347,867.4	
15	16	07-2022	311	7,246,237	777,274.75	772,344.69	1,246,425.8	1,333,684.79	
16	17	08-2022	320	7,232,956	830,437.23	781,272.97	1,303,233.63	1,340,153.55	
17	18	09-2022	317	7,205,006	903,783.12	969,155.52	1,241,674.07	1,332,235.89	
18	19	10-2022	318	7,188,776	727,502.04	730,319.87	1,244,802.36	1,292,407.65	
19	20	11-2022	311	7,183,124	776,475.94	772,807.37	1,256,914.2	1,301,084.31	
20	21	12-2022	312	7,202,966	839,709.98	861,656.71	1,241,542.72	1,297,226.69	
21	22	01-2023	314	7,189,202	797,122.75	807,438.9	1,237,786.1	1,323,937.06	
22	23	02-2023	314	7,174,764	726,989.14	740,804.36	1,229,659.93	1,302,719.5	
23	24	03-2023	315	7,159,720	909,510.97	966,395.11	1,181,982.35	1,265,549.12	
24	25	04-2023	316	7,177,578	770,654.71	663,977.32	1,298,706.07	1,326,159.64	
25	26	05-2023	316	7,192,537	794,876.51	748,917.48	1,349,161.25	1,362,139.08	
26	27	06-2023	316	7,207,400	877,355.8	891,491.3	1,347,482.65	1,437,047.55	

Download Capability:

- Include a functionality that allows users to download the generated report as a .csv file, facilitating further data analysis or sharing outside the application.

Select the data fields to display other than month and year

Net Inflow or Ou... x

Net Asset under ... x

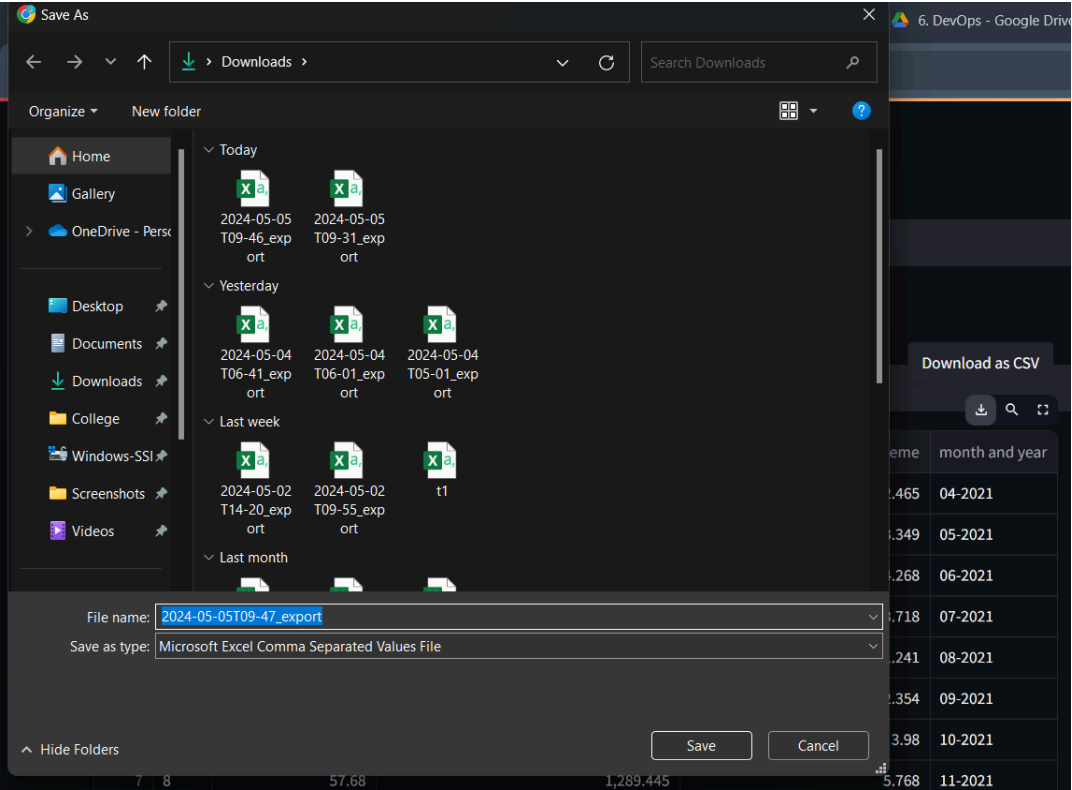
Net Inflow or Ou... x

Download as CSV

1 of 1 result

06-2023

	slno	Net Inflow or Outflow	Net Asset under Management per Scheme	Net Inflow or Outflow per Scheme	month and year
0	1	24.65	1,090.33	2.465	04-2021
1	2	33.49	1,145.858	3.349	05-2021
2	3	42.68	1,179.044	4.268	06-2021
3	4	37.18	1,210.523	3.718	07-2021
4	5	12.41	1,251.915	1.241	08-2021
5	6	23.54	1,279.782	2.354	09-2021
6	7	39.8	1,295.176	3.98	10-2021
7	8	57.68	1,289.445	5.768	11-2021
8	9	54.33	1,309.088	5.433	12-2021
9	10	58.53	1,315.661	5.853	01-2022



sno	Net Inflow	Net Asset	Net Inflow month and year
0	24.65	1090.33	2.465 Apr-21
1	33.49	1145.858	3.349 May-21
2	42.68	1179.044	4.268 Jun-21
3	37.18	1210.523	3.718 Jul-21
4	12.41	1251.915	1.241 Aug-21
5	23.54	1279.782	2.354 Sep-21
6	39.8	1295.176	3.98 Oct-21
7	57.68	1289.445	5.768 Nov-21
8	54.33	1309.088	5.433 Dec-21
9	58.53	1315.661	5.853 Jan-22
10	57.23	1277.041	5.723 Feb-22
11	65.6	1313.123	6.56 Mar-22
12	49.21	1301.921	4.921 Apr-22
13	60.8	1283.324	6.08 May-22
14	58.31	1255.4	5.831 Jun-22
15	49.28	1340.198	4.928 Jul-22
16	51.32	1384.99	5.132 Aug-22
17	60.29	1375.204	6.029 Sep-22
18	56.95	1411.598	5.695 Oct-22
19	55.75	1445.126	5.575 Nov-22
20	63.56	1425.899	6.356 Dec-22
21	71.16	1415.516	7.116 Jan-23
22	69.45	1416.972	6.945 Feb-23
23	80.15	1434.011	8.015 Mar-23
24	53.85	1481.762	5.385 Apr-23
25	52.91	1537.54	5.291 May-23

Field Selection and Calculation:

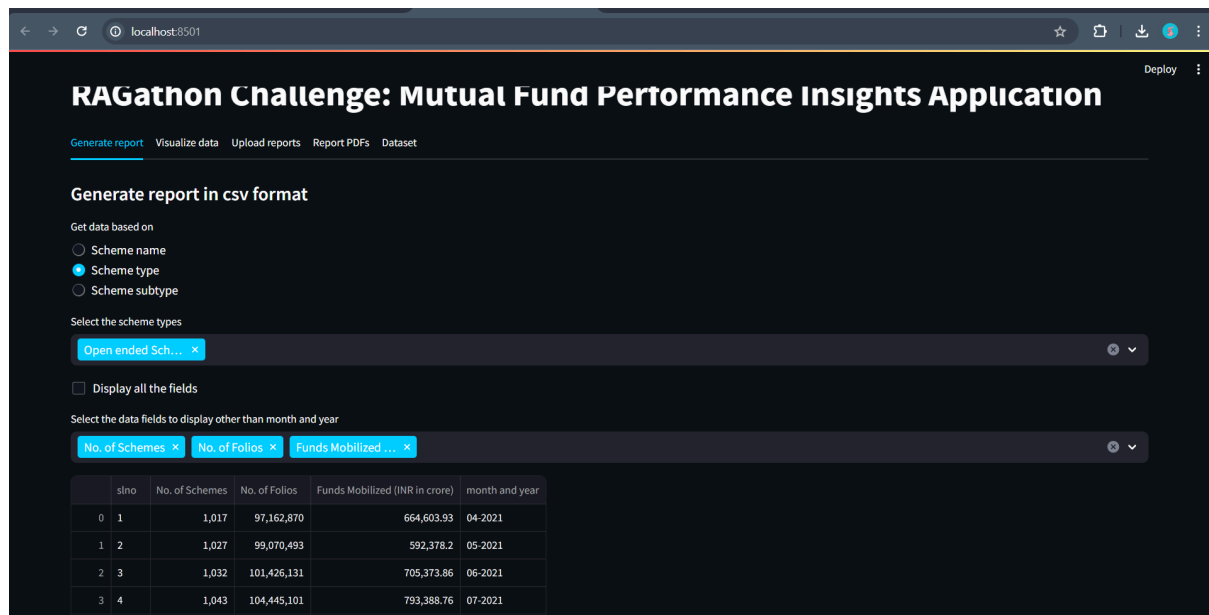
- Users should be able to select one or multiple data fields from the provided dataset. Additionally, the application must offer the capability to compute and select derived fields such as:

- Net Inflow or Outflow: Calculated as `Funds Mobilized for the month - Repurchase/Redemption for the month`.

- Net Asset under Management per Scheme: Determined by dividing the `Net Assets Under Management` by the `No. of Schemes`.

- Net Inflow or Outflow per Scheme: This is the ratio of `Net Inflow or Outflow` to the `No. of Schemes`.

I have included the above three calculated field in the dataframe. Users can choose to view them or select all fields to display.



Dynamic Reporting:

- Based on the user's selections of schemes and fields, dynamically generate a report on the screen. This real-time data visualization supports immediate analysis and decision-making.

Dynamic csv reports

localhost:8501

Deploy

RAGathon Challenge: Mutual Fund Performance Insights Application

[Generate report](#)[Visualize data](#)[Upload reports](#)[Report PDFs](#)[Dataset](#)

Generate report in csv format

Get data based on

☒ Scheme name

☐ Scheme type

☐ Scheme subtype

Select the scheme names

Short Duration F...

Low Duration Fund

Money Market F...

☐ Display all the fields

Select the data fields to display other than month and year

No. of Schemes

No. of Folios

Funds Mobilized ...

	sino	No. of Schemes	No. of Folios	Funds Mobilized (INR in crore)	month and year
0	1	26	640,697	7,197.07	04-2021
1	2	18	489,845	39,475.79	04-2021
2	3	24	1,174,999	31,210.41	04-2021

localhost:8501

Deploy

RAGathon Challenge: Mutual Fund Performance Insights Application

[Generate report](#)[Visualize data](#)[Upload reports](#)[Report PDFs](#)[Dataset](#)

Generate report in csv format

Get data based on

☒ Scheme name

☐ Scheme type

☐ Scheme subtype

Select the scheme names

Childrens Fund

☐ Display all the fields

Select the data fields to display other than month and year

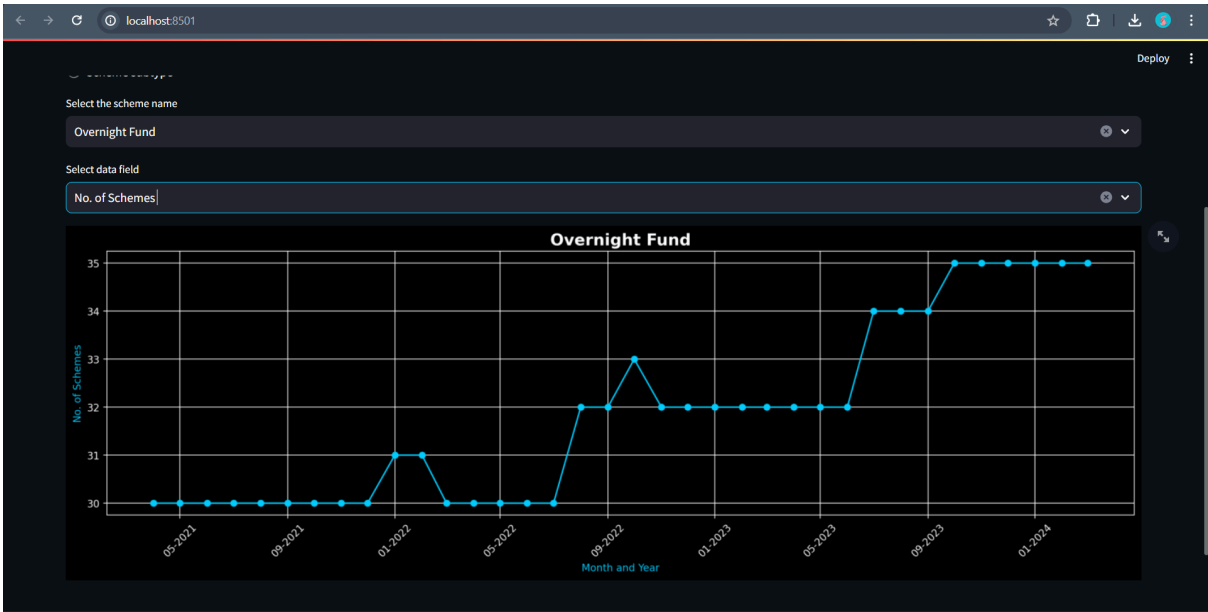
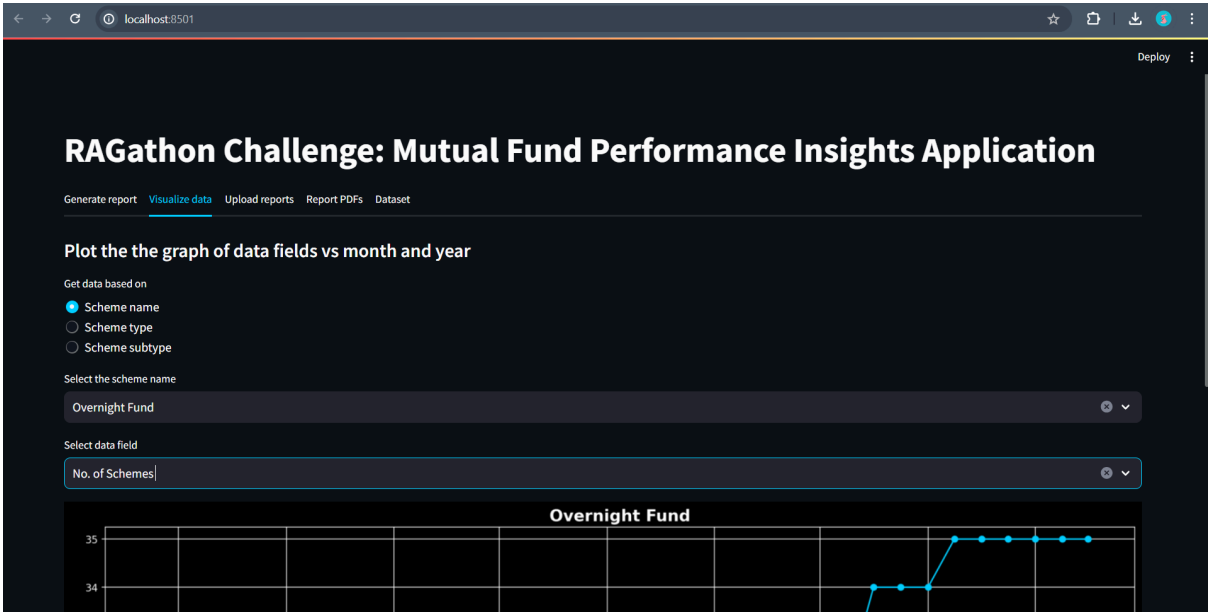
Net Inflow or Ou...

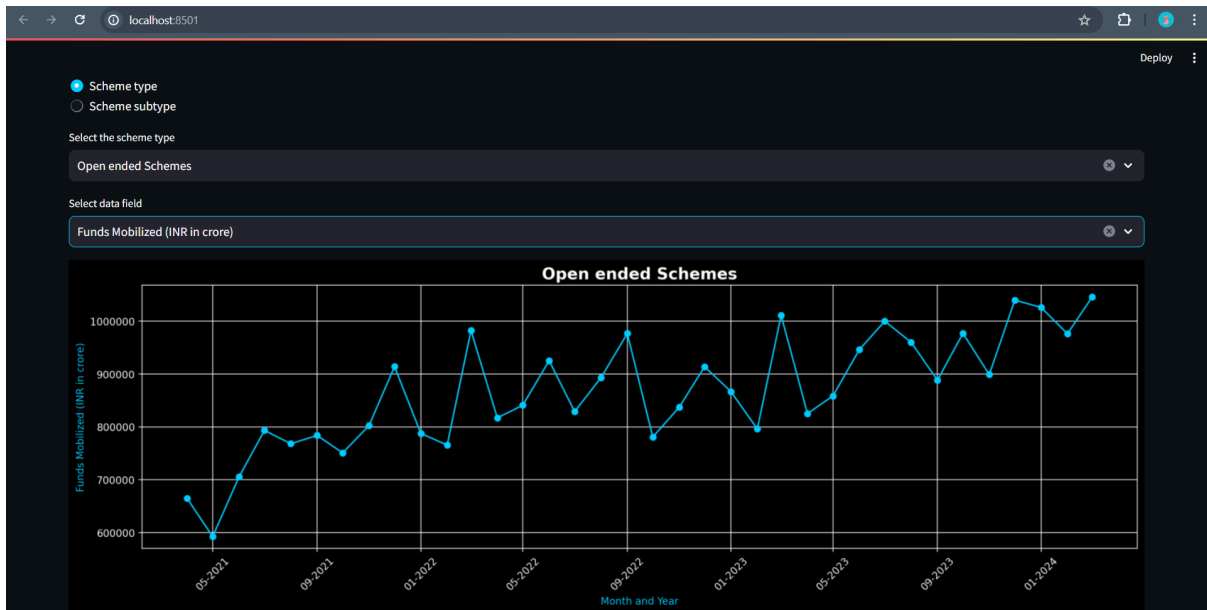
Net Asset under ...

Net Inflow or Ou...

	sino	Net Inflow or Outflow	Net Asset under Management per Scheme	Net Inflow or Outflow per Scheme	month and year
0	1	24.65	1,090.33	2,465	04-2021
1	2	33.49	1,145.858	3,349	05-2021
2	3	42.68	1,179.044	4,268	06-2021
3	4	37.18	1,210.523	3,718	07-2021

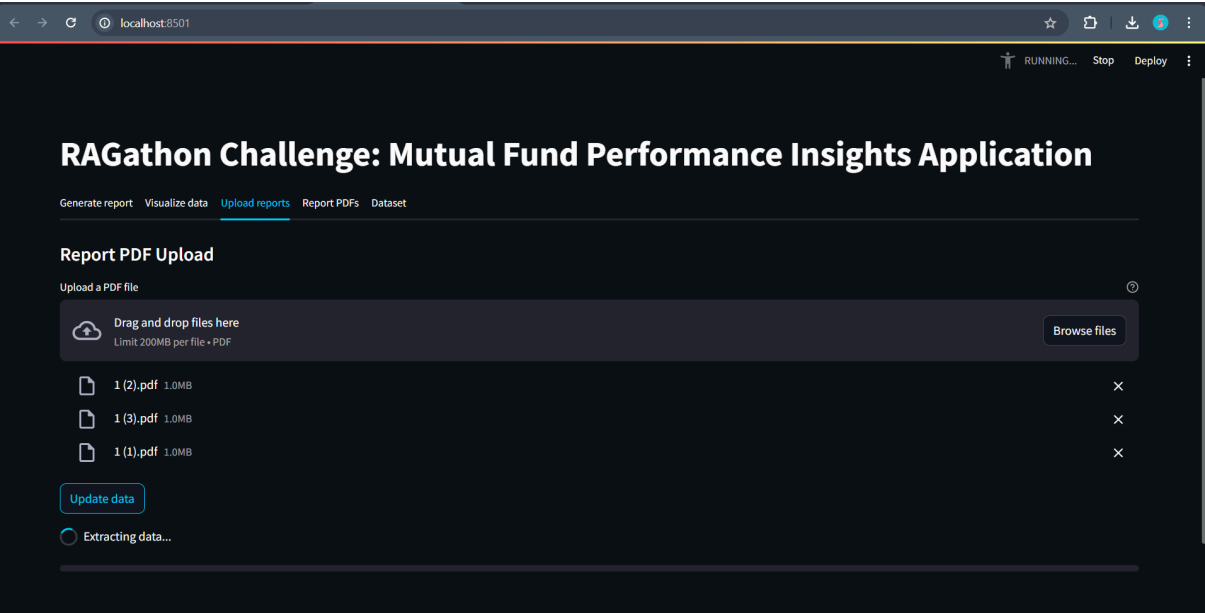
Dynamic graph reports



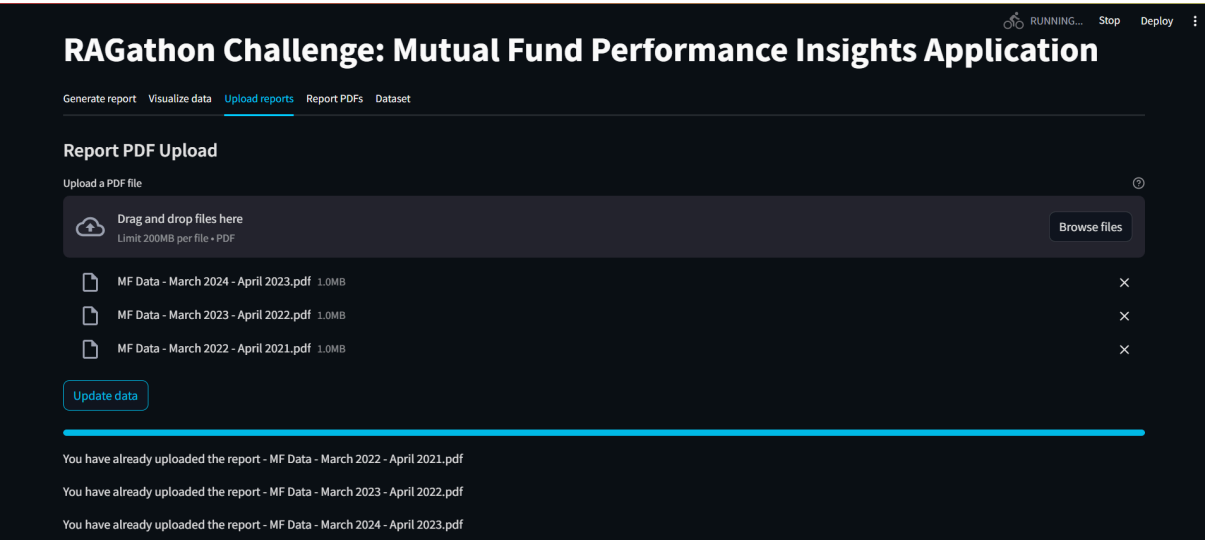


Data Upload Functionality:

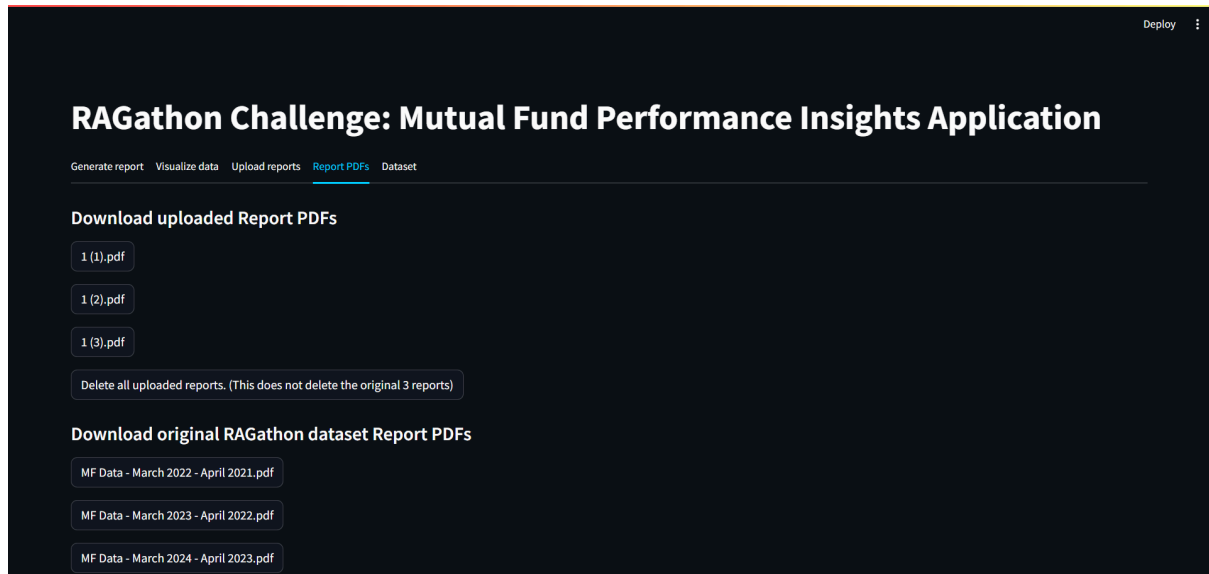
- Provide a feature to upload new monthly reports in PDF format. This capability ensures that the application remains up-to-date with the latest mutual fund performance data.



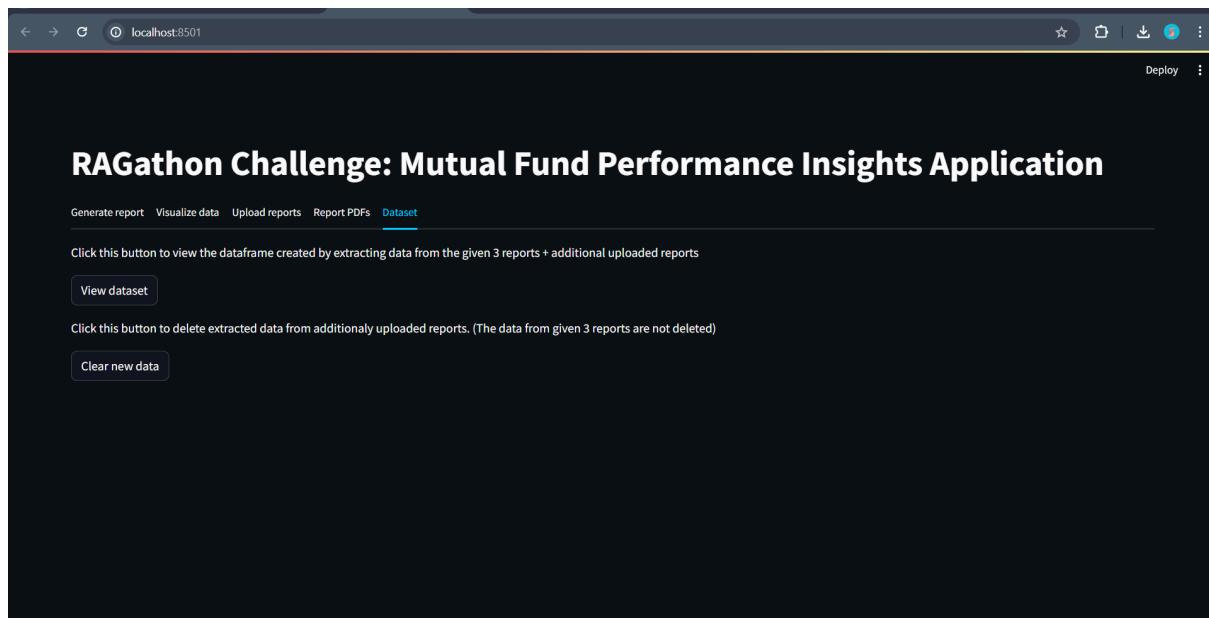
Inform if report is already uploaded



View and delete uploaded reports:



View and delete the generated dataframe:



localhost:8501

Deploy

RAGathon Challenge: Mutual Fund Performance Insights Application

Generate reportVisualize dataUpload reportsReport PDFsDataset

View dataset

	Scheme Name	Scheme Type	Scheme Subtype	No. of Schemes	No. of Folios	Funds Mobilized (INR in crore)	Repurchase/Redemption (INR in crore)	Net Assets Under M
0	Open ended Schemes	None	None	0	0	0		0
1	Income/Debt Oriented Schemes	None	None	0	0	0		0
2	Overnight Fund	Open ended Schemes	Income/Debt Oriented Schemes	30	560,319	501,715.35	514,567.46	
3	Liquid Fund	Open ended Schemes	Income/Debt Oriented Schemes	37	1,753,074	311,582.55	356,186.27	
4	Ultra Short Duration Fund	Open ended Schemes	Income/Debt Oriented Schemes	27	618,499	21,425.78	24,265.91	
5	Low Duration Fund	Open ended Schemes	Income/Debt Oriented Schemes	22	1,054,564	11,027.48	19,973.91	
6	Money Market Fund	Open ended Schemes	Income/Debt Oriented Schemes	20	416,283	32,554.08	38,040.78	
7	Short Duration Fund	Open ended Schemes	Income/Debt Oriented Schemes	25	576,126	3,201.8	12,256.71	
8	Medium Duration Fund	Open ended Schemes	Income/Debt Oriented Schemes	16	282,861	386.94	1,187.34	
9	Medium to Long Duration Fund	Open ended Schemes	Income/Debt Oriented Schemes	13	115,666	68.87	1,136.66	

Responsiveness and adaptability of the interface across different devices (e.g., desktops, tablets, smartphones).

rufingjohn's apps - Streamlit x Streamlit x

rufina-mutualfundsapp.streamlit.app

Share

RAGathon Challenge: Mutual Fund Performance Insights Application

Generate reportVisualize dataUpload reportsReport PDFsDataset

Generate report in csv format

Get data based on

Scheme name

Scheme type

Scheme subtype

Select the scheme types

Open ended Sch... x

Display all the fields

sno	month and year	No. of Schemes	No. of Folios	Funds Mobilized (INR in crore)	Repurchase/Redemption (INR in crore)	Net Assets Under Management (INR in crore)	Average Net Assets Under Management (INR in crore)	No. of segregated portfolios created	Net Assets Under Management (INR in crore)
0	1 04-2021	1,017	97,162,870	664,603.93	546,483.97	3,113,949.09	3,104,508.65	26	
1	2 05-2021	1,027	99,070,493	592,378.2	611,190.42	3,199,815.58	3,185,763.89	26	
2	3 06-2021	1,032	101,426,131	705,373.86	677,511.19	3,275,690.77	3,310,919.67	26	
3	4 07-2021	1,043	104,445,101	793,388.76	667,467.71	3,453,633.91	3,428,635.63	26	
4	5 08-2021	1,054	107,544,526	768,164.42	728,096.07	3,586,298.84	3,532,466.49	26	
5	6 09-2021	1,062	110,850,487	783,906.64	823,850.46	3,608,403.92	3,669,880.75	26	
6	7 10-2021	1,072	113,575,727	750,782.71	711,288.7	3,668,933.31	3,756,513.32	26	
7	8 11-2021	1,078	116,264,545	802,452.53	755,357.91	3,671,976.84	3,783,177.92	26	
8	9 12-2021	1,080	119,494,795	914,251.67	918,786.8	3,710,617.41	3,729,648.7	26	
9	10 01-2022	1,091	122,424,734	787,808.18	752,584.09	3,739,957.64	3,826,199.29	24	

Home - Google DriveDocumentation - Google Docsstreamlit_app - Streamlit

localhost:8501

Deploy

RAGathon Challenge: Mutual Fund Performance Insights Application

[Generate report](#)[Visualize data](#)[Upload reports](#)[Report PDFs](#)[Dataset](#)

Generate report in csv format

Get data based on

☐ Scheme name

☒ Scheme type

☐ Scheme subtype

Select the scheme types

Open ended Sch... x

☒ Display all the fields

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1	2	05-2021	1,027	99,070,493	592,378.2	611,190.42	3,199,815.58	3
2	3	06-2021	1,032	101,426,131	705,373.86	677,511.19	3,275,690.77	3
3	4	07-2021	1,043	104,445,101	793,388.76	667,467.71	3,453,633.91	3

3:40 PM05-05-2024

3:44 pm

rufinajohn's apps - StreamlitStreamlit

rufina-mutualfundsapp.streamlit.app

Share

RAGathon Challenge: Mutual Fund Performance Insights Application

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Generate report in csv format

Get data based on

☐ Scheme name

☒ Scheme type

☐ Scheme subtype

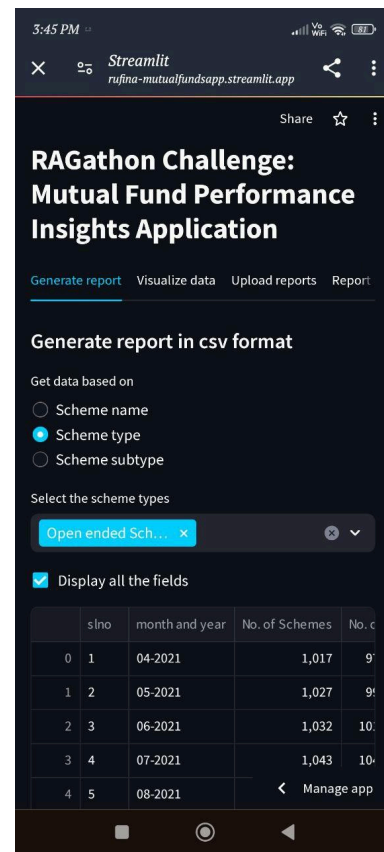
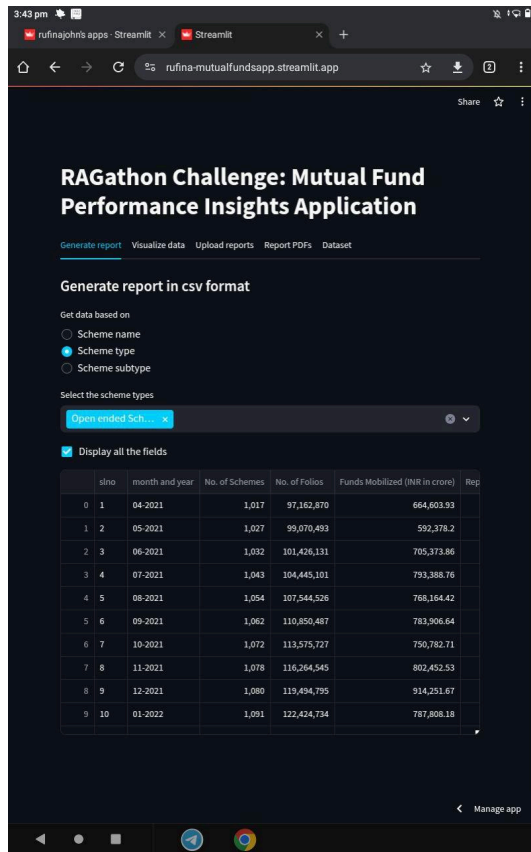
Select the scheme types

Open ended Sch... x

☒ Display all the fields

	sino	month and year	No. of Schemes	No. of Folios	Funds Mobilized (INR in crore)	Repurchase/Redemption (INR in crore)	Net Assets Under Management (INR in crore)
0	1	04-2021	1,017	97,162,870	664,603.93	546,483.97	3,113,949.09
1	2	05-2021	1,027	99,070,493	592,378.2	611,190.42	3,1

Manage app



3. ANY NECESSARY CONFIGURATIONS OR DEPENDENCIES NEEDED TO RUN THE APPLICATION.

- The main packages required for the app are streamlit, pdfplumber, pandas, numpy, matplotlib and os.
- Refer requirements.txt for full details.