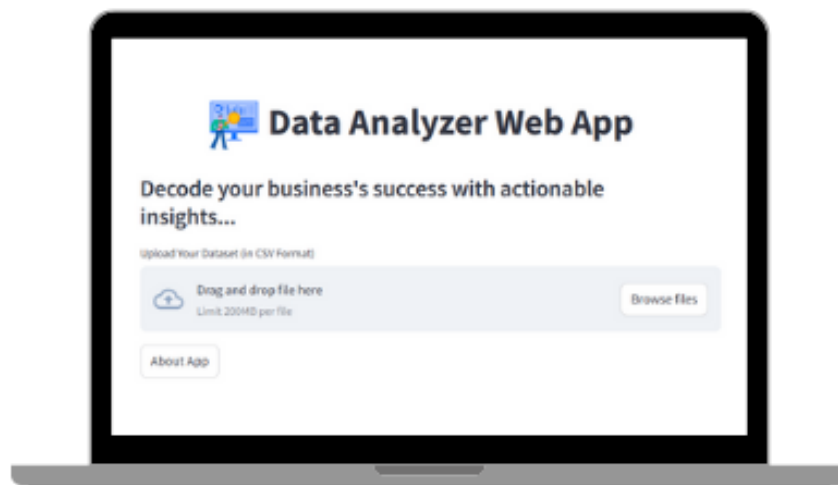


Data Analyzer WebApp – Interactive Data Analysis Made Simple

Data Analyzer WebApp is a browser-based data analysis tool developed using Streamlit. It empowers users to upload and analyze CSV datasets without requiring programming expertise. The application provides essential data exploration features, making it ideal for business users, analysts, and data enthusiasts.



1 Problem Statement


Data analysis can often be complex and time-consuming, especially for non-programmers or those unfamiliar with data analysis tools. Existing solutions either require extensive coding knowledge or are limited in functionality. There is a need for a user-friendly, interactive tool that simplifies the data exploration and analysis process, allowing users to quickly gain insights from CSV datasets.

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Address	Lat	AM or PM	Browser	Company	Credit Card	Exp Date	Security	Provider	Email	Job	IP Address	Language	Purchase Price
16629	46 in	PM	Opera/9.3	Martinez-Herman	6.01E+15	20-Feb	900	JCB 16 digit	pdunlap@yahoo.com	Scientist, product/process	149.146.147.205	el	98.14
9374	28 rn	PM	Opera/8.9	Fletcher, Richards	3.34E+15	18-Nov	561	Mastercard	anthony41@reed.com	Drilling engineer	15.160.41.51	fr	70.73
Unit 0065	94 vE	PM	Mozilla/5.	Simpson, Williams	6.76E+11	19-Aug	699	JCB 16 digit	amymiller@morales-harrison.com	Customer service manager	132.207.160.22	de	0.95
7780	Julia 36 vm	PM	Mozilla/5.	Williams, Marshall	6.01E+15	24-Feb	384	Discover	brent16@olson-robinson.info	Drilling engineer	30.250.74.19	es	78.04
23012	20 IE	AM	Opera/9.5	Brown, Watson and	6.01E+15	25-Oct	678	Diners Club / C	christopherwright@gmail.com	Fine artist	24.140.33.94	es	77.82
7502	21 XT	PM	Mozilla/5.	Silva-Anderson	3.02E+13	25-Jul	7169	Discover	yingyuen@gmail.com	Fish farm manager	55.96.152.147	ru	25.15
93971	96 XI	AM	Mozilla/5.	Gibson and Sons	6.01E+15	24-Jul	714	VISA 16 digit	olivia04@yahoo.com	Dancer	127.252.144.18	de	88.56
260	96 pG	PM	Mozilla/5.	Marshall-Collins	5.61E+11	25-Jun	256	VISA 13 digit	phillip48@parks.info	Event organiser	224.247.97.150	pt	44.25
2129	45 JN	PM	Mozilla/5.	Galloway and Sons	1.8E+14	24-Apr	899	JCB 16 digit	kdavis@rasmussen.com	Financial manager	146.234.201.229	ru	59.54
3795	15 Ug	AM	Mozilla/5.	Rivera, Buchanan	4.4E+12	17-Jan	931	American Express	qcoleman@hunt-huerta.com	Forensic scientist	236.198.199.8	zh	95.63
650	65 Yn	PM	Mozilla/5.	Strickland, Michael	1.8E+14	17-Feb	734	Voyager	ustewart@hotmail.com	Development worker, com	26.59.93.1	el	96.89
349	30 kK	PM	Mozilla/5.	Kim-Oliver	8.7E+14	26-Jun	9717	JCB 15 digit	johnnymiller@coleman.com	Diagnostic radiographer	128.222.40.234	en	19.26
733	69 DO	AM	Mozilla/5.	Moore-Martin	5.12E+15	26-May	119	VISA 16 digit	tholt@hotmail.com	Surveyor, quantity	236.71.234.240	en	39.65
118	36 bu	PM	Mozilla/5.	Keller PLC	4.6E+15	25-Jan	557	VISA 16 digit	caitlin57@yahoo.com	Accountant, chartered publ	84.212.92.11	it	8.93
8774	70 zH	AM	Mozilla/5.	Leach, Howe and F	8.7E+14	22-Sep	427	VISA 16 digit	aburns@yahoo.com	Acupuncturist	50.25.148.1	de	24.18
31730	41 CJ	PM	Opera/8.9	Garcia-Steele	1.8E+14	25-Apr	404	Diners Club / C	amanda39@yahoo.com	Retail manager	53.176.235.33	el	71.78
5283	31 ho	AM	Opera/9.7	Stanton, Villanueva	6.76E+11	22-Jun	285	Diners Club / C	griffincatherine@wilson.com	Therapist, art	8.145.170.52	de	84.44
950	23 Rh	PM	Mozilla/5.	Fernandez, Melton	3.34E+15	26-Jan	771	American Express	stacymitchell@hall.com	Designer, jewellery	225.25.125.61	el	58.68
461	17 SB	PM	Mozilla/5.	Beard, Abbott and I	6.01E+15	22-Dec	767	Mastercard	hannah62@yahoo.com	Photographer	73.250.176.201	el	70.15
125	Hall 99 CU	PM	Mozilla/5.	Turner-McKinney	6.76E+11	20-Feb	440	VISA 16 digit	ruiznicole@gmail.com	Designer, interior/spatial	25.105.209.214	fr	58.39
7383	23 dk	PM	Mozilla/5.	Santana, Montes	6.01E+15	22-Mar	740	Maestro	zstephenson@smith.info	Public relations officer	250.71.54.180	de	30.33
282	24 RZ	AM	Mozilla/5.	Guzman-Reese	5.49E+15	25-Mar	506	JCB 16 digit	rsmith@hotmail.com	Presenter, broadcasting	125.58.66.253	it	90.93
625	Laura 45 oa	PM	Mozilla/5.	Burnett Ltd	3.16E+15	22-Jul	508	Discover	chambersmichael@gmail.com	Retail manager	65.106.61.141	en	33.62
25292	31 pS	PM	Mozilla/5.	Cruz Inc	5.02E+11	23-Feb	60	VISA 13 digit	ltaylor@gardner-meadows.com	Field seismologist	25.193.145.116	ru	97.97
Unit 1046	62 Ac	AM	Mozilla/5.	Morris PLC	4.75E+15	18-Jul	11	JCB 15 digit	james07@yahoo.com	Musician	21.113.231.220	es	85.31
80797	66 SO	PM	Mozilla/5.	Saunders-Mendez	8.7E+14	19-May	901	Voyager	madsion41@mooney.com	Training and development	67.26.186.226	de	6.25


2 Proposed Solution

The proposed solution is the Data Analyzer WebApp – a streamlined, intuitive tool that enables users to upload datasets, preview data, identify and handle null values and duplicates, and generate basic statistical summaries. The application leverages Streamlit for a responsive user interface and Pandas for data processing, offering a complete data analysis workflow without requiring technical expertise.

Upload Your Dataset (in CSV Format)

 Drag and drop file here
Limit 200MB per file

Browse files

 Ecommerce-Purchases.csv 2.6MB ×

☐ Preview Dataset

☐ Datatype of Each Column

☐ Shape of the Dataset

☐ Null Values in the Dataset

☐ Duplicates of the Dataset

☐ Summary of the Dataset

About App

3 Methodology Used

- **Data Ingestion:** Users upload datasets in CSV format through an interactive interface. The app reads the dataset using Pandas and verifies its structure.
- **Data Profiling:** Displays data types for each column. Provides an overview of dataset dimensions (rows and columns).
- **Data Cleaning:** Identifies and handles null values through interpolation. Detects and removes duplicate entries to maintain data integrity.
- **Data Analysis:** Generates descriptive statistics, including mean, median, and standard deviation. Allows users to preview the dataset's head or tail for quick inspection.
- **User Interaction:** Clean, responsive UI built with Streamlit, enabling seamless navigation between features.

4 Key Features

- **Data Upload & Preview:** Upload CSV datasets and view the first or last few records.
- **Data Profiling:** Display data types for each column and dataset dimensions.
- **Data Cleaning:** Identify and handle null values and duplicate records.
- **Statistical Analysis:** Generate summary statistics, including mean, median, and standard deviation.
- **Interactive User Interface:** Clean, visually appealing UI built with Streamlit.
- **Deployment Ready:** Configured for cloud hosting using a Procfile and setup.sh.

5 Results

The Data Analyzer WebApp effectively simplifies the data analysis process by providing an intuitive interface for data profiling, cleaning, and statistical analysis. It eliminates the need for coding knowledge, enabling users to gain insights quickly and accurately. By automating data handling and providing visual feedback, the application significantly reduces the time and effort required for data analysis.