

Second-Hand Car Management System User Manual

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- Github Link: <https://github.com/turan1609/second-hand-car-validation-software-system>

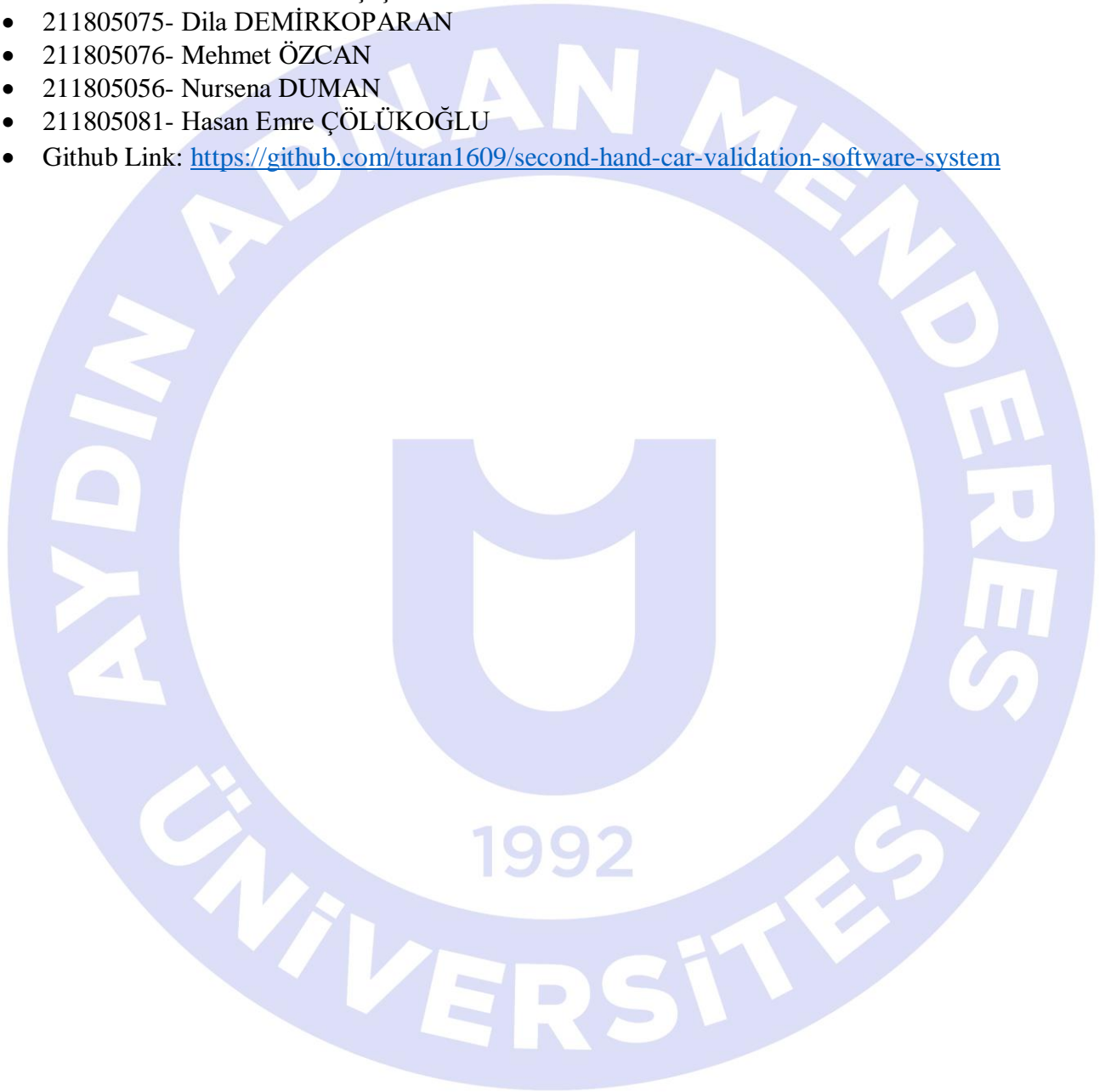


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1. Introduction

a. Overview

The Second-Hand Car Management System is a Python-based desktop application designed to simplify the management of second-hand car data. The application provides functionalities for loading, filtering, displaying, and exporting car data. It features a user-friendly interface built with PyQt5 and integrates SQLite for database management.

b. The Aim of This Software

This software aims to enable users to manage and manipulate second-hand car data in an organized and efficient manner. The system includes features for:

- Loading car data.
- Filtering based on parameters (e.g., brand, year, mileage).
- Displaying filtered data.
- Exporting data into formats like CSV or Excel.
- Viewing detailed information for each car.
- Adding new car data to the system.

c. Target Audience

- **Individual Users:** Obtain detailed information about vehicles for purchase.
- **Sellers:** Understand market value and details of vehicles.
- **Researchers and Academics:** Analyze the second-hand car market.
- **Corporate Users:** Analyze vehicle data for car rental companies and insurance firms.

2. System Requirements

a. Software Dependencies

- **Python:** Version 3.12.

b. Required Python Libraries

1. Web Scraping Libraries:

- **selenium:** Web browser automation and data scraping. (pip install selenium)
- **webdriver-manager:** Manages WebDriver setup for Selenium. (pip install webdriver-manager)
- **re:** Text processing with regular expressions. (pip install re)

2. Database Operations:

- **sqlite3:** Built-in with Python; no additional installation needed.

3. GUI Design:

- **PyQt5:** Designing and developing event-driven user interfaces. (pip install PyQt5)

4. Data Manipulation:

- **pandas:** For working with CSV files and data analysis. (pip install pandas)
- **glob:** Finding and listing file paths. (pip install glob)

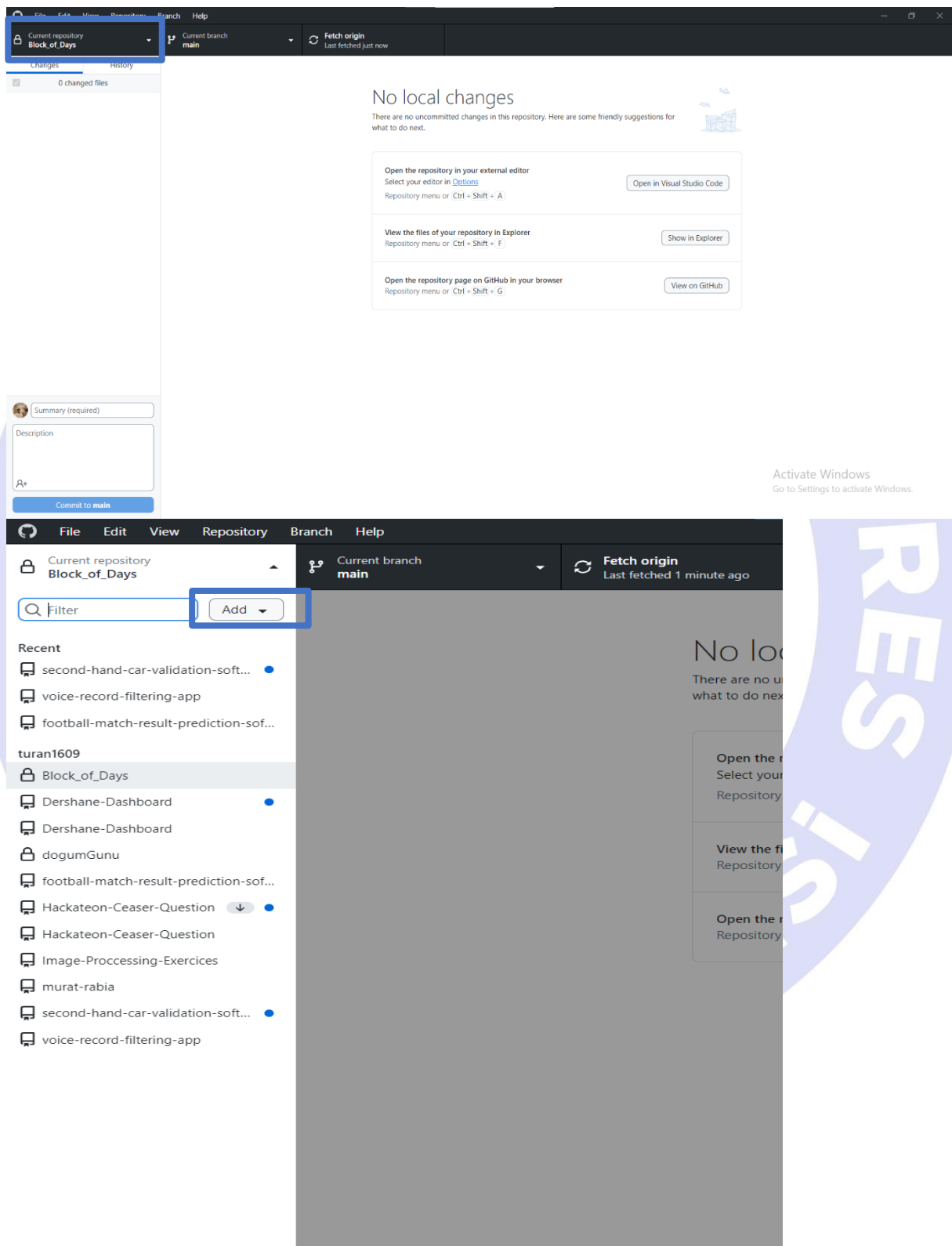
5. Other Utilities:

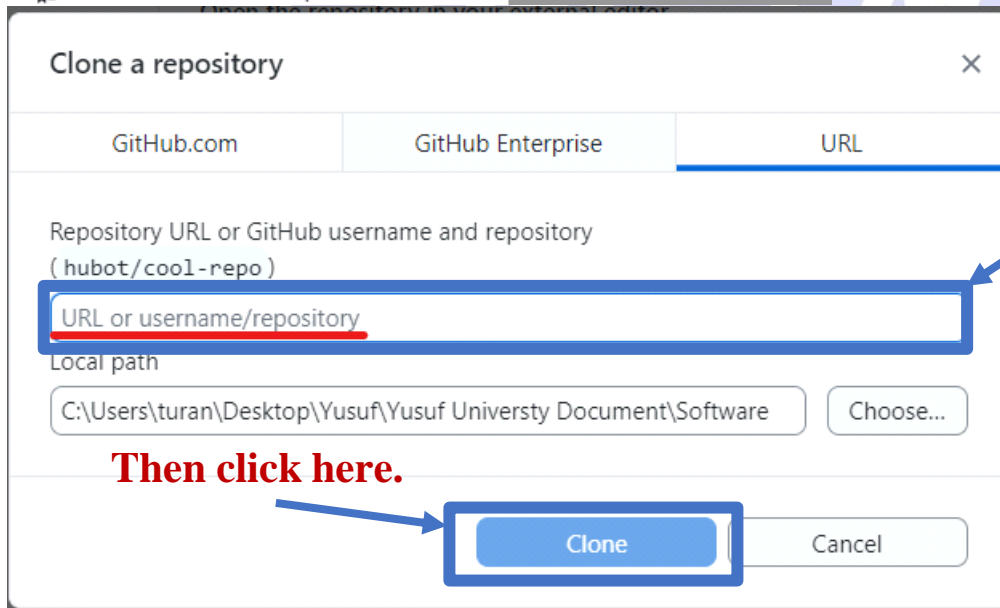
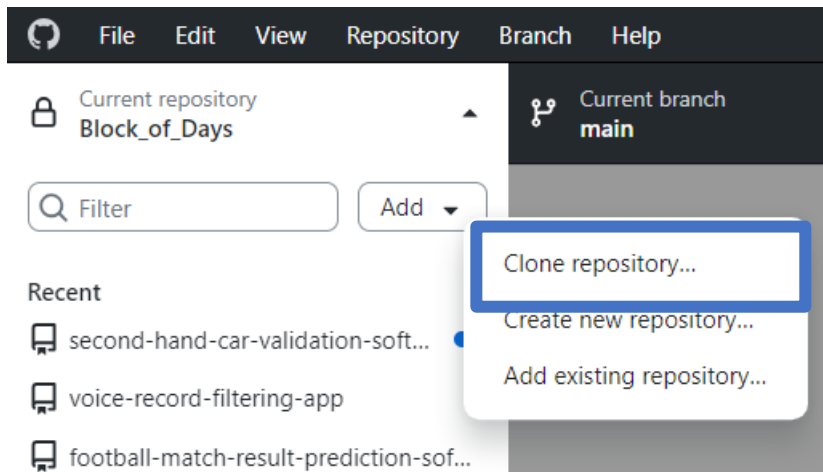
- **csv:** For reading and writing CSV files.
- **time:** Time measurement and waiting operations.
- **sys:** System-related operations (e.g., stdout redirection).
- **os:** File and directory operations.

Note: These system requirements are based on the development environment. Compatibility with other systems may vary.

3. Installation Guide

1. Access the GitHub repository: [Second-Hand Car Validation Software System](#).
2. Clone the source code using GitHub Desktop (Windows) or your terminal (Linux/macOS).





Enter the URL here.

Then click here.

3. Open the folder containing the source code in your chosen IDE.
4. Locate the "Libraries" section in main.py and install the listed libraries. IDEs often underline missing dependencies and provide an option to install them.
5. Run the application using the "Run" button in your IDE.

Note: For PyCharm users, refer to [PyCharm Library Installation Guide](#) for resolving library installation issues.

4. User Interface Overview

MainWindow

Brand: All

Model: All

Engine Type: All

Year: All

Km: Min: Max:

Fuel Type: All

Gear Type: All

Warranty Status: All

Price: Min: Max:

	id	brand	model	engineType	year	km	
7	10812	Volkswagen	Tiguan	1.5 Tsi Act 150 P...	2024	7288	B
8	10813	Volkswagen	Tiguan	1.5 Tsi Act 150 P...	2024	19000	B
9	10814	Volkswagen	Tiguan	1.5 Etsi Act 150 ...	2024	8512	B
10	10815	Volkswagen	Tiguan	1.5 Etsi Act 150 ...	2024	11168	H
11	10816	Volkswagen	Passat Variant	1.5 Tsi Act 150 P...	2024	9960	B
12	10817	Volkswagen	Tiguan	1.5 Etsi Act 150 ...	2024	14738	H
13	10818	Volkswagen	Tiguan	1.5 Etsi Act 150 ...	2024	10796	H
14	10819	Volkswagen	Tiguan	1.5 Tsi Act 150 P...	2024	20000	B
15	10820	Volkswagen	Tiguan	1.5 Tsi Act 150 P...	2024	14424	B
16	10821	Volkswagen	T-cross	1.0 Tsi 115 Ps R-...	2024	6001	B
17	10822	Volkswagen	T-cross	1.0 Tsi 115 Ps R-...	2024	8679	B
18	10823	Volkswagen	Caddy	2.0 Tdi 122 Ps ...	2024	21200	D
19	10824	Volkswagen	Caddy	2.0 Tdi 122 Ps ...	2024	35917	D

SHOW RESULTS

CLEAR

SHOW ALL RESULTS

DOWNLOAD

Pull Data

Page From To

Database'ten gelen veri Combobox'lara aktarıldı.
Veri yükleme tamamlandı.
SELECT DISTINCT * FROM cars WHERE 1=1
[]

The user interface is designed for ease of use:

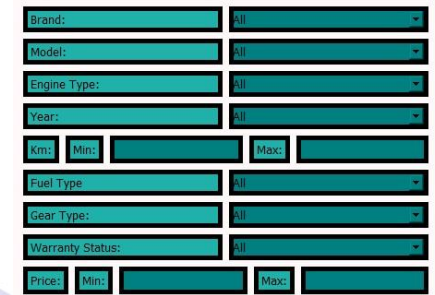
- **Left Panel:** Filtering Section.
- **Right Panel:** Displays second hand car data.
- **Bottom Section:** Includes buttons for specific tasks.

5. Features and Functionalities

1. Filtering Section

a. Search Criteria:

- **Brand:** Dropdown menu to select the vehicle brand.
- **Model:** Dropdown menu to select the vehicle model.
- **Engine Type:** Dropdown menu to select the engine type.
- **Year:** Dropdown menu to select the year of manufacture.
- **Mileage:** Text boxes to enter min/max mileage.
- **Fuel Type:** Dropdown menu to select the fuel type.
- **Gear Type:** Dropdown menu to select the transmission type.
- **Warranty Status:** Dropdown menu to select warranty status.
- **Price:** Text boxes to enter min/max price.



Brand:

Model:

Engine Type:

Year:

Kms: Max:

Fuel Type:

Gear Type:

Warranty Status:

Price: Max:

2. Show Results:

- After clicking "SHOW RESULTS", a list of vehicles matching the criteria is displayed.

SHOW RESULTS

	id	brand	model	engineType	year	km	
7	10812	Volkswagen	Tiguan	1.5 Tsi Act 150 P...	2024	7288	B
8	10813	Volkswagen	Tiguan	1.5 Tsi Act 150 P...	2024	19000	B
9	10814	Volkswagen	Tiguan	1.5 Etsi Act 150 ...	2024	8512	B
10	10815	Volkswagen	Tiguan	1.5 Etsi Act 150 ...	2024	11168	H
11	10816	Volkswagen	Passat Variant	1.5 Tsi Act 150 P...	2024	9960	B
12	10817	Volkswagen	Tiguan	1.5 Etsi Act 150 ...	2024	14738	H
13	10818	Volkswagen	Tiguan	1.5 Etsi Act 150 ...	2024	10796	H
14	10819	Volkswagen	Tiguan	1.5 Tsi Act 150 P...	2024	20000	B
15	10820	Volkswagen	Tiguan	1.5 Tsi Act 150 P...	2024	14424	B
16	10821	Volkswagen	T-cross	1.0 Tsi 115 Ps R-...	2024	6001	B
17	10822	Volkswagen	T-cross	1.0 Tsi 115 Ps R-...	2024	8679	B
18	10823	Volkswagen	Caddy	2.0 Tdi 122 Ps ...	2024	21200	D
19	10824	Volkswagen	Caddy	2.0 Tdi 122 Ps ...	2024	35917	D

3. Show All Data

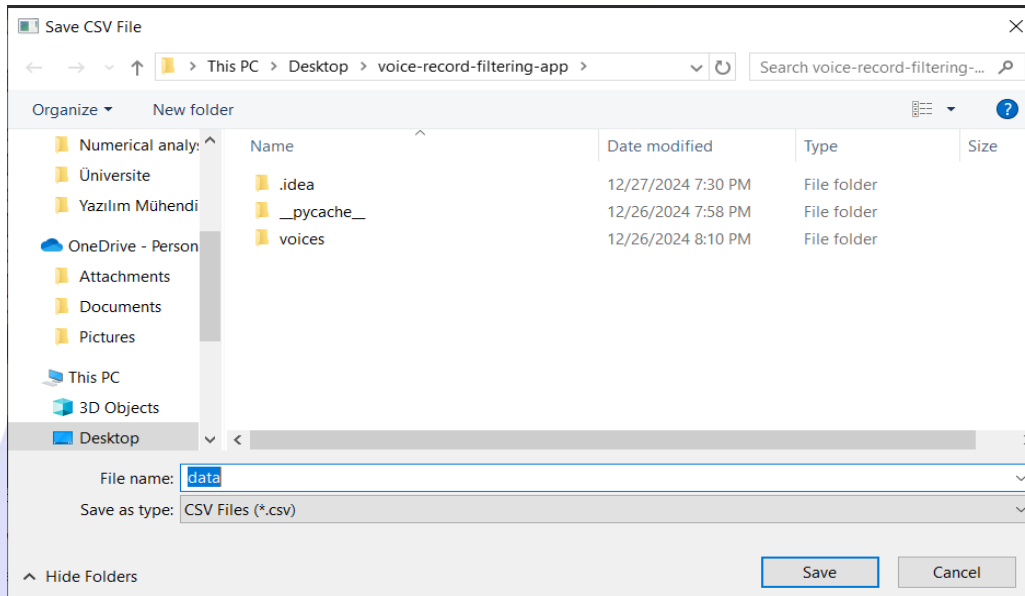
SHOW ALL RESULTS

- Clicking "SHOW ALL RESULTS" displays all available vehicle data.

4. Download Data

DOWNLOAD

- The "DOWNLOAD" button exports visible results to a CSV file.



5. Clear Data

CLEAR

- Clears the data display area. Applying new filters automatically clears old data.

6. Pull Data

- Scrapes new data from the internet according to the specified page range.

Pull Data

Page From To

6. Usage Instructions

- The user wants to open the app and see all the data.

SHOW ALL RESULTS							
	id	brand	model	engineType	year	km	
7	10812	Volkswagen	Tiguan	1.5 Tsi Act 150 P...	2024	7288	B
8	10813	Volkswagen	Tiguan	1.5 Tsi Act 150 P...	2024	19000	B
9	10814	Volkswagen	Tiguan	1.5 Etsi Act 150 ...	2024	8512	B
10	10815	Volkswagen	Tiguan	1.5 Etsi Act 150 ...	2024	11168	H
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16	10821	Volkswagen	T-cross	1.0 Tsi 115 Ps R-...	2024	6001	B
17	10822	Volkswagen	T-cross	1.0 Tsi 115 Ps R-...	2024	8679	B
18	10823	Volkswagen	Caddy	2.0 Tdi 122 Ps ...	2024	21200	D
19	10824	Volkswagen	Caddy	2.0 Tdi 122 Ps ...	2024	35917	D

- While looking at the data, he only wants to download Volkswagen's Passat models and enters the necessary filters for this presses the Show Results button.

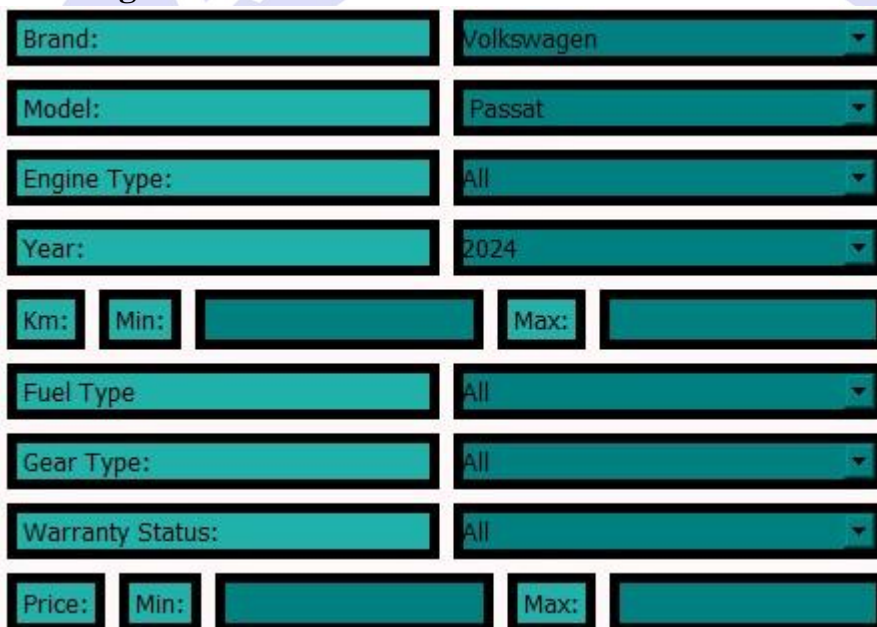
SHOW RESULTS										
Brand:	Volkswagen									
Model:	Passat									
Engine Type:	All									
Year:	2024									
Km:	Min:		Max:							
Fuel Type	All									
Gear Type:	All									
Warranty Status:	All									
Price:	Min:		Max:							

- Wants to check if I can pull new and more data
- Here you can increase the number of pages up to 100. The more it is, the more data it finds. And press pull data.



A screenshot of a web form titled "Pull Data". It contains two input fields: "Page From" with the value "1" and "To" with the value "10".

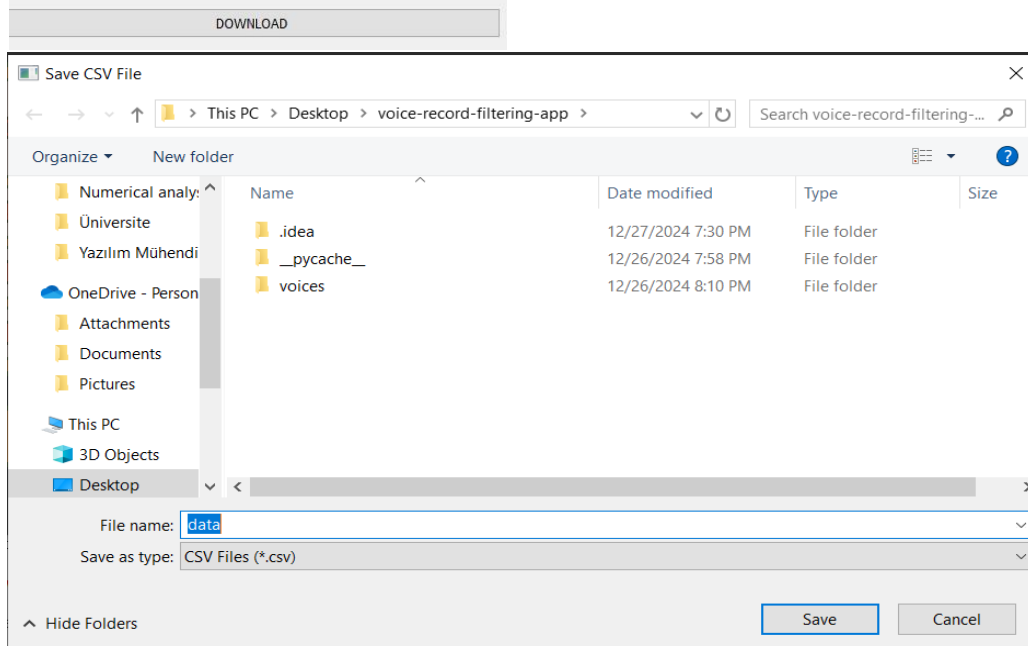
- When the shooting process from the internet is completed, you can filter the same model again.



A screenshot of a car filter form. It includes the following fields:

- Brand: Volkswagen
- Model: Passat
- Engine Type: All
- Year: 2024
- Km: Min: [input field] Max: [input field]
- Fuel Type: All
- Gear Type: All
- Warranty Status: All
- Price: Min: [input field] Max: [input field]

- Clicks the download button and add it wherever you want.



7. Troubleshooting and Maintenance

1. Application Does Not Start:

- Ensure all required libraries are installed: `pip install -r requirements.txt`.

2. Can be stuck in captcha while capturing data:

- Re run the program.



8. References

- <https://stackoverflow.com/questions/tagged/pyqt5>
- https://www.youtube.com/watch?v=97jyCxczg1Q&list=PLyaHWDDfgBPMQUBW95_P4KT3JcVclx4n
- <https://medium.com/datarunner/librosa-9729c09ecf7a>
- <https://www.youtube.com/watch?v=iCwMOJnKk2c&list=PL-wATfevAMNqIee7cH3q1bh4QJFAaeNv0>
- <https://www.sqlite.org/docs.html>
- <https://doc.qt.io/qtforpython-6/>
- <https://www.youtube.com/watch?v=uyYfnnye7qE>
- <https://pandas.pydata.org/docs/>

