

# IMDb Movie Rating Scraper – Project Documentation

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**Project Type:** Individual Project

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## EXECUTIVE SUMMARY

The **IMDb Movie Rating Scraper** is an automated data extraction tool built using **Python**, **Selenium**, and **WebDriver Manager**. The system dynamically loads IMDb's "Top 250 Movies" webpage, extracts important movie information such as *rank*, *title*, *release year*, *rating*, and *movie URL*, and stores the data into a **CSV** file.

This project demonstrates knowledge of **web automation**, **web scraping**, **HTML DOM interaction**, **Python scripting**, and **structured data export**.

It can be expanded into analytics dashboards, movie trend trackers, or machine-learning datasets for recommendation systems.

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## PROJECT OBJECTIVE

The main objectives of this project are:

**Extract IMDb Top 250 movie details dynamically**

**Use Selenium to handle JavaScript-rendered content**

**Export movie data into a structured CSV format**

**Provide extendable architecture for future scraping (genre, cast, etc.)**

**Demonstrate browser automation & data scraping skills**

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## PROJECT SCOPE

### Included in Scope

- Automated browsing of IMDb Top 250 page
- Extraction of:
  - Movie Rank
  - Movie Title
  - Release Year
  - IMDb Rating
  - URL
- CSV file generation

- Support for headless scraping (no visible browser)

## Not Included (Future Scope)

- No extraction from individual movie pages
  - No storing in a database
  - No analytics dashboard
- 

## FEATURES

### Dynamic Movie Scraping

Uses Selenium to load the full Top 250 movies page and extract all movie rows dynamically.

### Top Movie Ranking Extraction

Scrapes rank, movie name, IMDB rating, and release year.

### CSV Export

All extracted movie details are exported into a clean CSV file.

### Headless Mode (Optional)

The scraper can run in background mode without opening a browser window.

### Easily Expandable

Can be extended to extract:

- cast
  - genre
  - runtime
  - director
  - storyline
- 

## SYSTEM ARCHITECTURE

### 1. Selenium WebDriver

Controls Chrome browser and interacts with IMDb website.

### 2. WebDriver Manager

Automatically downloads compatible ChromeDriver version.

### 3. Python Script

Handles navigation, extraction, cleaning, and exporting.

## 4. Output Layer (CSV)

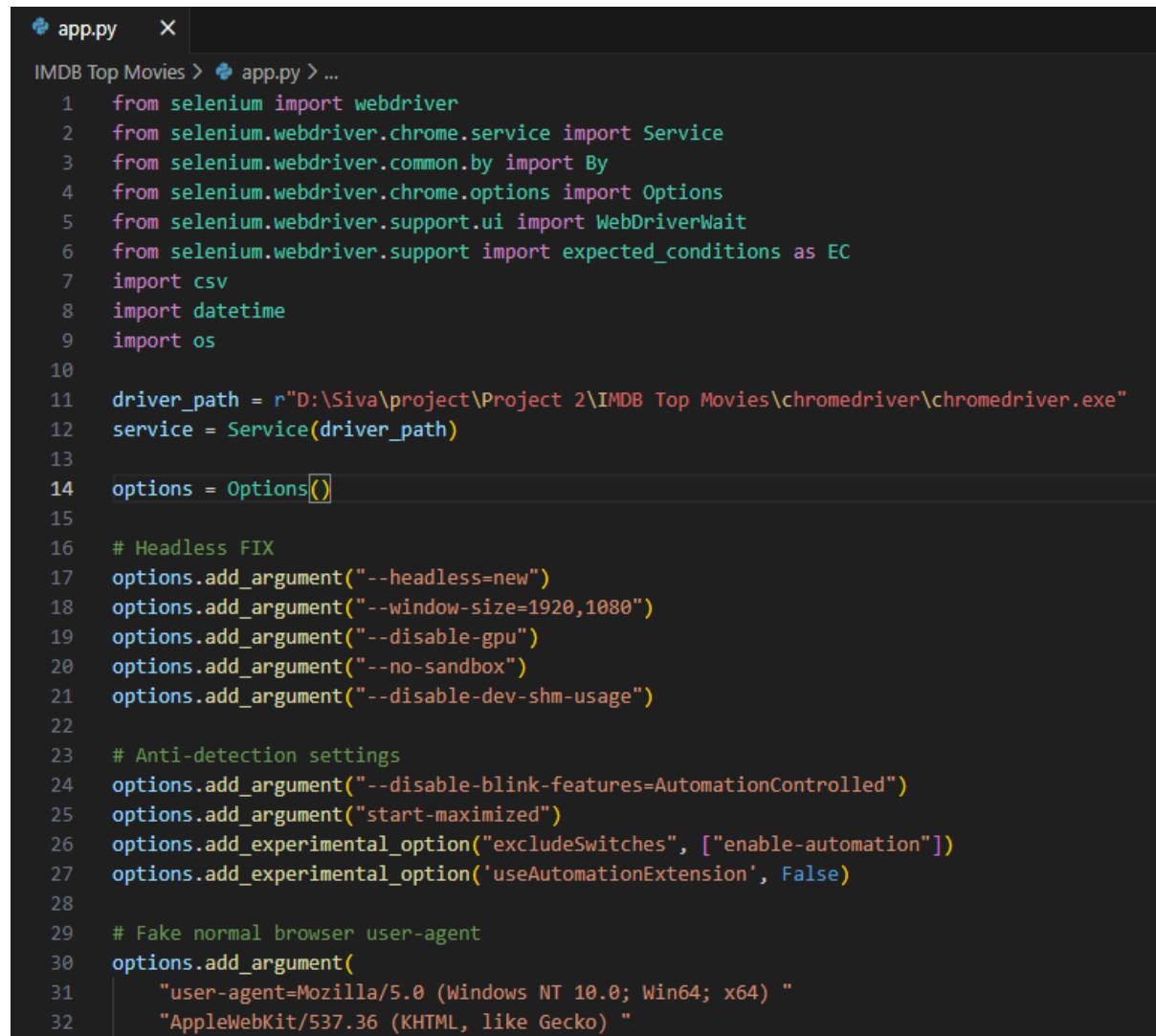
Stores extracted movie data in structured format ready for analysis.

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## DATA FLOW

1. User runs Python script
  2. Selenium opens IMDb Top 250 webpage
  3. Script waits until all movie rows load
  4. Extracts movie details from each row
  5. Stores data inside a Python list
  6. Converts list into a DataFrame
  7. Exports final CSV file
- 

## SOURCE CODE IMPLEMENTATION



The screenshot shows a code editor window with the file 'app.py' open. The code is written in Python and uses the Selenium library to interact with a web browser. The script starts by importing necessary modules: selenium, webdriver, time, csv, datetime, and os. It then defines the path to the chromedriver executable and creates a Service object. Next, it initializes a Chrome Options object and applies various arguments to make the browser headless and disable GPU usage. It also adds experimental options to exclude switches and disable automation extensions. Finally, it sets a fake user-agent for the browser.

```
app.py  X
IMDB Top Movies > app.py > ...
1  from selenium import webdriver
2  from selenium.webdriver.chrome.service import Service
3  from selenium.webdriver.common.by import By
4  from selenium.webdriver.chrome.options import Options
5  from selenium.webdriver.support.ui import WebDriverWait
6  from selenium.webdriver.support import expected_conditions as EC
7  import csv
8  import datetime
9  import os
10
11 driver_path = r"D:\Siva\project\Project 2\IMDB Top Movies\chromedriver\chromedriver.exe"
12 service = Service(driver_path)
13
14 options = Options()
15
16 # Headless FIX
17 options.add_argument("--headless=new")
18 options.add_argument("--window-size=1920,1080")
19 options.add_argument("--disable-gpu")
20 options.add_argument("--no-sandbox")
21 options.add_argument("--disable-dev-shm-usage")
22
23 # Anti-detection settings
24 options.add_argument("--disable-blink-features=AutomationControlled")
25 options.add_argument("start-maximized")
26 options.add_experimental_option("excludeSwitches", ["enable-automation"])
27 options.add_experimental_option('useAutomationExtension', False)
28
29 # Fake normal browser user-agent
30 options.add_argument(
31     "user-agent=Mozilla/5.0 (Windows NT 10.0; Win64; x64) "
32     "AppleWebKit/537.36 (KHTML, like Gecko) "
```

```
33     |     "Chrome/120.0.0.0 Safari/537.36"
34   )
35
36 driver = webdriver.Chrome(service=service, options=options)
37
38 driver.get("https://www.imdb.com/chart/top/")
39
40 # Important: wait until the movie list is visible
41 WebDriverWait(driver, 15).until(
42     EC.presence_of_element_located((By.CSS_SELECTOR, "li.ipc-metadata-list-summary-item"))
43 )
44
45 movies = driver.find_elements(By.CSS_SELECTOR, "li.ipc-metadata-list-summary-item")
46
47 data = []
48
49 for movie in movies:
50     try:
51         rank_text = movie.find_element(By.CSS_SELECTOR, ".ipc-metadata-list-summary-item__c").text
52         rank = rank_text.replace(".", "").strip()
53         title = movie.find_element(By.CSS_SELECTOR, "h3.ipc-title__text").text
54         year = movie.find_element(By.CSS_SELECTOR, "span.cli-title-metadata-item:nth-child(1)").text
55         rating = movie.find_element(By.CSS_SELECTOR, "span.ipc-rating-star--rating").text
56         url = movie.find_element(By.CSS_SELECTOR, "a.ipc-title-link-wrapper").get_attribute("href")
57
58         data.append([rank, title, year, rating, url])
59
60     except:
61         continue
62 timestamp = datetime.datetime.now().strftime("%Y-%m-%d_%H-%M-%S")
63
```

```
64 # Save CSV
65 with open(f"Top 250 IMDB Movies-{timestamp}.csv", "w", newline="", encoding="utf-8") as f:
66     writer = csv.writer(f)
67     writer.writerow(["Rank", "Title", "Year", "Rating", "URL"])
68     writer.writerows(data)
69
70 print("CSV created successfully!")
71 driver.quit()
72 os.startfile(f'Top 250 IMDB Movies-{timestamp}.csv')
73
```

```
IMDB Top Movies > main.py > ...
1  import time
2  import csv
3  from selenium import webdriver
4  from selenium.webdriver.common.by import By
5  from selenium.webdriver.chrome.service import Service
6  from selenium.webdriver.chrome.options import Options
7
8  service = Service(r"D:\shiv\imdb-rating\chromedriver-win64\chromedriver-win64\chromedriver.exe")
9  options = Options()
10 #options.add_argument("--headless=new")
11
12 driver = webdriver.Chrome(service=service, options=options)
13 driver.get("https://www.imdb.com/chart/top/")
14 time.sleep(3)
15 driver.maximize_window()
16
17
18 movies = driver.find_elements(By.CSS_SELECTOR, ".ipc-metadata-list-summary-item")
19
20 data = []
21
22 for movie in movies:
23     # Rank
24     rank_text = movie.find_element(By.CSS_SELECTOR, ".ipc-metadata-list-summary-item_c").text
25     rank = rank_text.split('.', 0).strip()
26
27     # Title
28     title = movie.find_element(By.CSS_SELECTOR, "h3").text
29
30     # Year
31     year = movie.find_element(By.CSS_SELECTOR, ".cli-title-metadata-item").text
```

```
33     # Rating
34     rating_str = movie.find_element(By.CSS_SELECTOR, ".ipc-rating-star--rating").text
35
36     # URL (full)
37     relative_url = movie.find_element(By.CSS_SELECTOR, "a.ipc-title-link-wrapper").get_attribute("href")
38
39     # Save row
40     data.append([rank, title, year, rating_str, relative_url])
41
42 # Save to CSV
43 with open("test-imdb-top250.csv", "w", newline="", encoding="utf-8") as f:
44     writer = csv.writer(f)
45     writer.writerow(["Rank", "Title", "Year", "Rating", "URL"])
46     writer.writerows(data)
47
48 print("CSV saved successfully: imdb_top250.csv")
49
50 driver.quit()
```

```
IMDB Top Movies >  req.txt
 1 attrs==25.4.0
 2 beautifulsoup4==4.14.2
 3 bs4==0.0.2
 4 certifi==2025.11.12
 5 cffi==2.0.0
 6 charset-normalizer==3.4.4
 7 h11==0.16.0
 8 idna==3.11
 9 numpy==2.3.5
10 outcome==1.3.0.post0
11 packaging==25.0
12 pandas==2.3.3
13 pycparser==2.23
14 PySocks==1.7.1
15 python-dateutil==2.9.0.post0
16 python-dotenv==1.2.1
17 pytz==2025.2
18 requests==2.32.5
19 selenium==4.38.0
20 six==1.17.0
21 sniffio==1.3.1
22 sortedcontainers==2.4.0
23 soupsieve==2.8
24 trio==0.32.0
25 trio-websocket==0.12.2
26 typing_extensions==4.15.0
27 tzdata==2025.2
28 undetected-chromedriver==3.5.5
29 urllib3==2.5.0
30 webdriver-manager==4.0.2
31 websocket-client==1.9.0
32 websockets==15.0.1
33 wsproto==1.3.2
```

## OUTPUT

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS

PS D:\Siva\project\Project 2\IMDB Top Movies> py app.py
CSV created successfully!
PS D:\Siva\project\Project 2\IMDB Top Movies> []
```

A	B	C	D	E	F	G	H	I	J
Rank	Title	Year	Rating	URL					
1 #1	The Shawshank Redemption	1994	9.3	<a href="https://www.imdb.com/title/tt0111161/?ref_=chttp_t_1">https://www.imdb.com/title/tt0111161/?ref_=chttp_t_1</a>					
3 #2	The Godfather	1972	9.2	<a href="https://www.imdb.com/title/tt0068646/?ref_=chttp_t_2">https://www.imdb.com/title/tt0068646/?ref_=chttp_t_2</a>					
4 #3	The Dark Knight	2008	9.1	<a href="https://www.imdb.com/title/tt0468569/?ref_=chttp_t_3">https://www.imdb.com/title/tt0468569/?ref_=chttp_t_3</a>					
5 #4	The Godfather Part II	1974	9	<a href="https://www.imdb.com/title/tt0071562/?ref_=chttp_t_4">https://www.imdb.com/title/tt0071562/?ref_=chttp_t_4</a>					
6 #5	12 Angry Men	1957	9	<a href="https://www.imdb.com/title/tt0050083/?ref_=chttp_t_5">https://www.imdb.com/title/tt0050083/?ref_=chttp_t_5</a>					
7 #6	The Lord of the Rings: The Return of the King	2003	9	<a href="https://www.imdb.com/title/tt0167260/?ref_=chttp_t_6">https://www.imdb.com/title/tt0167260/?ref_=chttp_t_6</a>					
8 #7	Schindler's List	1993	9	<a href="https://www.imdb.com/title/tt0108052/?ref_=chttp_t_7">https://www.imdb.com/title/tt0108052/?ref_=chttp_t_7</a>					
9 #8	The Lord of the Rings: The Fellowship of the Ring	2001	8.9	<a href="https://www.imdb.com/title/tt0120737/?ref_=chttp_t_8">https://www.imdb.com/title/tt0120737/?ref_=chttp_t_8</a>					
10 #9	Pulp Fiction	1994	8.8	<a href="https://www.imdb.com/title/tt0110912/?ref_=chttp_t_9">https://www.imdb.com/title/tt0110912/?ref_=chttp_t_9</a>					
11 #10	The Good, the Bad and the Ugly	1966	8.8	<a href="https://www.imdb.com/title/tt0060196/?ref_=chttp_t_10">https://www.imdb.com/title/tt0060196/?ref_=chttp_t_10</a>					
12 #11	The Lord of the Rings: The Two Towers	2002	8.8	<a href="https://www.imdb.com/title/tt0167261/?ref_=chttp_t_11">https://www.imdb.com/title/tt0167261/?ref_=chttp_t_11</a>					
13 #12	Forrest Gump	1994	8.8	<a href="https://www.imdb.com/title/tt0109830/?ref_=chttp_t_12">https://www.imdb.com/title/tt0109830/?ref_=chttp_t_12</a>					
14 #13	Fight Club	1999	8.8	<a href="https://www.imdb.com/title/tt0137523/?ref_=chttp_t_13">https://www.imdb.com/title/tt0137523/?ref_=chttp_t_13</a>					
15 #14	Inception	2010	8.8	<a href="https://www.imdb.com/title/tt1375666/?ref_=chttp_t_14">https://www.imdb.com/title/tt1375666/?ref_=chttp_t_14</a>					
16 #15	Star Wars: Episode V - The Empire Strikes Back	1980	8.7	<a href="https://www.imdb.com/title/tt0080684/?ref_=chttp_t_15">https://www.imdb.com/title/tt0080684/?ref_=chttp_t_15</a>					
17 #16	The Matrix	1999	8.7	<a href="https://www.imdb.com/title/tt0133093/?ref_=chttp_t_16">https://www.imdb.com/title/tt0133093/?ref_=chttp_t_16</a>					
18 #17	Goodfellas	1990	8.7	<a href="https://www.imdb.com/title/tt0099685/?ref_=chttp_t_17">https://www.imdb.com/title/tt0099685/?ref_=chttp_t_17</a>					
19 #18	Interstellar	2014	8.7	<a href="https://www.imdb.com/title/tt0816692/?ref_=chttp_t_18">https://www.imdb.com/title/tt0816692/?ref_=chttp_t_18</a>					
20 #19	One Flew Over the Cuckoo's Nest	1975	8.7	<a href="https://www.imdb.com/title/tt0073486/?ref_=chttp_t_19">https://www.imdb.com/title/tt0073486/?ref_=chttp_t_19</a>					

A	B	C	D	E	F	G	H	I	J
41 #40	Whiplash	2014	8.5	<a href="https://www.imdb.com/title/tt2582802/?ref_=chttp_t_40">https://www.imdb.com/title/tt2582802/?ref_=chttp_t_40</a>					
42 #41	The Prestige	2006	8.5	<a href="https://www.imdb.com/title/tt0482571/?ref_=chttp_t_41">https://www.imdb.com/title/tt0482571/?ref_=chttp_t_41</a>					
43 #42	American History X	1998	8.5	<a href="https://www.imdb.com/title/tt0120586/?ref_=chttp_t_42">https://www.imdb.com/title/tt0120586/?ref_=chttp_t_42</a>					
44 #43	LÃ©on: The Professional	1994	8.5	<a href="https://www.imdb.com/title/tt0110413/?ref_=chttp_t_43">https://www.imdb.com/title/tt0110413/?ref_=chttp_t_43</a>					
45 #44	Spider-Man: Across the Spider-Verse	2023	8.5	<a href="https://www.imdb.com/title/tt9362722/?ref_=chttp_t_44">https://www.imdb.com/title/tt9362722/?ref_=chttp_t_44</a>					
46 #45	Cinema Paradiso	1988	8.5	<a href="https://www.imdb.com/title/tt0095765/?ref_=chttp_t_45">https://www.imdb.com/title/tt0095765/?ref_=chttp_t_45</a>					
47 #46	Casablanca	1942	8.5	<a href="https://www.imdb.com/title/tt0034583/?ref_=chttp_t_46">https://www.imdb.com/title/tt0034583/?ref_=chttp_t_46</a>					
48 #47	The Intouchables	2011	8.5	<a href="https://www.imdb.com/title/tt1675434/?ref_=chttp_t_47">https://www.imdb.com/title/tt1675434/?ref_=chttp_t_47</a>					
49 #48	The Usual Suspects	1995	8.5	<a href="https://www.imdb.com/title/tt0114814/?ref_=chttp_t_48">https://www.imdb.com/title/tt0114814/?ref_=chttp_t_48</a>					
50 #49	Alien	1979	8.5	<a href="https://www.imdb.com/title/tt0078748/?ref_=chttp_t_49">https://www.imdb.com/title/tt0078748/?ref_=chttp_t_49</a>					
51 #50	Modern Times	1936	8.5	<a href="https://www.imdb.com/title/tt0027977/?ref_=chttp_t_50">https://www.imdb.com/title/tt0027977/?ref_=chttp_t_50</a>					
52 #51	Rear Window	1954	8.5	<a href="https://www.imdb.com/title/tt0047396/?ref_=chttp_t_51">https://www.imdb.com/title/tt0047396/?ref_=chttp_t_51</a>					
53 #52	Django Unchained	2012	8.5	<a href="https://www.imdb.com/title/tt1853728/?ref_=chttp_t_52">https://www.imdb.com/title/tt1853728/?ref_=chttp_t_52</a>					
54 #53	Once Upon a Time in the West	1968	8.5	<a href="https://www.imdb.com/title/tt0064116/?ref_=chttp_t_53">https://www.imdb.com/title/tt0064116/?ref_=chttp_t_53</a>					
55 #54	City Lights	1931	8.5	<a href="https://www.imdb.com/title/tt0021749/?ref_=chttp_t_54">https://www.imdb.com/title/tt0021749/?ref_=chttp_t_54</a>					
56 #55	Apocalypse Now	1979	8.4	<a href="https://www.imdb.com/title/tt0078788/?ref_=chttp_t_55">https://www.imdb.com/title/tt0078788/?ref_=chttp_t_55</a>					
57 #56	WALLÃ·E	2008	8.4	<a href="https://www.imdb.com/title/tt0910970/?ref_=chttp_t_56">https://www.imdb.com/title/tt0910970/?ref_=chttp_t_56</a>					
58 #57	Memento	2000	8.4	<a href="https://www.imdb.com/title/tt0209144/?ref_=chttp_t_57">https://www.imdb.com/title/tt0209144/?ref_=chttp_t_57</a>					
59 #58	Dune: Part Two	2024	8.4	<a href="https://www.imdb.com/title/tt15239678/?ref_=chttp_t_58">https://www.imdb.com/title/tt15239678/?ref_=chttp_t_58</a>					
60 #59	Raiders of the Lost Ark	1981	8.4	<a href="https://www.imdb.com/title/tt0082971/?ref_=chttp_t_59">https://www.imdb.com/title/tt0082971/?ref_=chttp_t_59</a>					

A	B	C	D	E	F	G	H	I	J
61 #60	Avengers: Infinity War	2018	8.4	<a href="https://www.imdb.com/title/tt4154756/?ref_=chttp_t_60">https://www.imdb.com/title/tt4154756/?ref_=chttp_t_60</a>					
62 #61	The Lives of Others	2006	8.4	<a href="https://www.imdb.com/title/tt045094/?ref_=chttp_t_61">https://www.imdb.com/title/tt045094/?ref_=chttp_t_61</a>					
63 #62	Spider-Man: Into the Spider-Verse	2018	8.4	<a href="https://www.imdb.com/title/tt4633694/?ref_=chttp_t_62">https://www.imdb.com/title/tt4633694/?ref_=chttp_t_62</a>					
64 #63	Sunset Boulevard	1950	8.4	<a href="https://www.imdb.com/title/tt0043014/?ref_=chttp_t_63">https://www.imdb.com/title/tt0043014/?ref_=chttp_t_63</a>					
65 #64	Witness for the Prosecution	1957	8.4	<a href="https://www.imdb.com/title/tt0051201/?ref_=chttp_t_64">https://www.imdb.com/title/tt0051201/?ref_=chttp_t_64</a>					
66 #65	Paths of Glory	1957	8.4	<a href="https://www.imdb.com/title/tt0050825/?ref_=chttp_t_65">https://www.imdb.com/title/tt0050825/?ref_=chttp_t_65</a>					
67 #66	The Shining	1980	8.4	<a href="https://www.imdb.com/title/tt0081505/?ref_=chttp_t_66">https://www.imdb.com/title/tt0081505/?ref_=chttp_t_66</a>					
68 #67	The Great Dictator	1940	8.4	<a href="https://www.imdb.com/title/tt0032553/?ref_=chttp_t_67">https://www.imdb.com/title/tt0032553/?ref_=chttp_t_67</a>					
69 #68	Inglourious Basterds	2009	8.4	<a href="https://www.imdb.com/title/tt0361748/?ref_=chttp_t_68">https://www.imdb.com/title/tt0361748/?ref_=chttp_t_68</a>					
70 #69	Aliens	1986	8.4	<a href="https://www.imdb.com/title/tt0090605/?ref_=chttp_t_69">https://www.imdb.com/title/tt0090605/?ref_=chttp_t_69</a>					
71 #70	12th Fail	2023	8.7	<a href="https://www.imdb.com/title/tt23849204/?ref_=chttp_t_70">https://www.imdb.com/title/tt23849204/?ref_=chttp_t_70</a>					
72 #71	High and Low	1963	8.4	<a href="https://www.imdb.com/title/tt0057565/?ref_=chttp_t_71">https://www.imdb.com/title/tt0057565/?ref_=chttp_t_71</a>					
73 #72	The Dark Knight Rises	2012	8.4	<a href="https://www.imdb.com/title/tt1345836/?ref_=chttp_t_72">https://www.imdb.com/title/tt1345836/?ref_=chttp_t_72</a>					
74 #73	Coco	2017	8.4	<a href="https://www.imdb.com/title/tt2380307/?ref_=chttp_t_73">https://www.imdb.com/title/tt2380307/?ref_=chttp_t_73</a>					
75 #74	Avengers: Endgame	2019	8.4	<a href="https://www.imdb.com/title/tt4154796/?ref_=chttp_t_74">https://www.imdb.com/title/tt4154796/?ref_=chttp_t_74</a>					
76 #75	Amadeus	1984	8.4	<a href="https://www.imdb.com/title/tt0086879/?ref_=chttp_t_75">https://www.imdb.com/title/tt0086879/?ref_=chttp_t_75</a>					
77 #76	Good Will Hunting	1997	8.3	<a href="https://www.imdb.com/title/tt0119217/?ref_=chttp_t_76">https://www.imdb.com/title/tt0119217/?ref_=chttp_t_76</a>					
78 #77	Toy Story	1995	8.3	<a href="https://www.imdb.com/title/tt0114709/?ref_=chttp_t_77">https://www.imdb.com/title/tt0114709/?ref_=chttp_t_77</a>					
79 #78	Your Name.	2016	8.4	<a href="https://www.imdb.com/title/tt5311514/?ref_=chttp_t_78">https://www.imdb.com/title/tt5311514/?ref_=chttp_t_78</a>					
80 #79	Das Boot	1981	8.4	<a href="https://www.imdb.com/title/tt0082096/?ref_=chttp_t_79">https://www.imdb.com/title/tt0082096/?ref_=chttp_t_79</a>					

81	#80	Oldboy	2003	8.3	<a href="https://www.imdb.com/title/tt0364569/?ref_=chttp_t_80">https://www.imdb.com/title/tt0364569/?ref_=chttp_t_80</a>
82	#81	Dr. Strangelove or: How I Learned to Stop Worrying and Love	1964	8.3	<a href="https://www.imdb.com/title/tt0057012/?ref_=chttp_t_81">https://www.imdb.com/title/tt0057012/?ref_=chttp_t_81</a>
83	#82	Braveheart	1995	8.3	<a href="https://www.imdb.com/title/tt0112573/?ref_=chttp_t_82">https://www.imdb.com/title/tt0112573/?ref_=chttp_t_82</a>
84	#83	Princess Mononoke	1997	8.3	<a href="https://www.imdb.com/title/tt0119698/?ref_=chttp_t_83">https://www.imdb.com/title/tt0119698/?ref_=chttp_t_83</a>
85	#84	American Beauty	1999	8.3	<a href="https://www.imdb.com/title/tt0169547/?ref_=chttp_t_84">https://www.imdb.com/title/tt0169547/?ref_=chttp_t_84</a>
86	#85	3 Idiots	2009	8.4	<a href="https://www.imdb.com/title/tt1187043/?ref_=chttp_t_85">https://www.imdb.com/title/tt1187043/?ref_=chttp_t_85</a>
87	#86	Capernaum	2018	8.4	<a href="https://www.imdb.com/title/tt8267604/?ref_=chttp_t_86">https://www.imdb.com/title/tt8267604/?ref_=chttp_t_86</a>
88	#87	Joker	2019	8.3	<a href="https://www.imdb.com/title/tt7286456/?ref_=chttp_t_87">https://www.imdb.com/title/tt7286456/?ref_=chttp_t_87</a>
89	#88	Once Upon a Time in America	1984	8.3	<a href="https://www.imdb.com/title/tt0087843/?ref_=chttp_t_88">https://www.imdb.com/title/tt0087843/?ref_=chttp_t_88</a>
90	#89	Singin' in the Rain	1952	8.3	<a href="https://www.imdb.com/title/tt0045152/?ref_=chttp_t_89">https://www.imdb.com/title/tt0045152/?ref_=chttp_t_89</a>
91	#90	Come and See	1985	8.3	<a href="https://www.imdb.com/title/tt0091251/?ref_=chttp_t_90">https://www.imdb.com/title/tt0091251/?ref_=chttp_t_90</a>
92	#91	Requiem for a Dream	2000	8.3	<a href="https://www.imdb.com/title/tt0180093/?ref_=chttp_t_91">https://www.imdb.com/title/tt0180093/?ref_=chttp_t_91</a>
93	#92	Star Wars: Episode VI - Return of the Jedi	1983	8.3	<a href="https://www.imdb.com/title/tt0086190/?ref_=chttp_t_92">https://www.imdb.com/title/tt0086190/?ref_=chttp_t_92</a>
94	#93	Toy Story 3	2010	8.3	<a href="https://www.imdb.com/title/tt0435761/?ref_=chttp_t_93">https://www.imdb.com/title/tt0435761/?ref_=chttp_t_93</a>
95	#94	The Hunt	2012	8.3	<a href="https://www.imdb.com/title/tt2106476/?ref_=chttp_t_94">https://www.imdb.com/title/tt2106476/?ref_=chttp_t_94</a>
96	#95	Ikiru	1952	8.3	<a href="https://www.imdb.com/title/tt0044741/?ref_=chttp_t_95">https://www.imdb.com/title/tt0044741/?ref_=chttp_t_95</a>
97	#96	Eternal Sunshine of the Spotless Mind	2004	8.3	<a href="https://www.imdb.com/title/tt0338013/?ref_=chttp_t_96">https://www.imdb.com/title/tt0338013/?ref_=chttp_t_96</a>
98	#97	Incendies	2010	8.3	<a href="https://www.imdb.com/title/tt1255953/?ref_=chttp_t_97">https://www.imdb.com/title/tt1255953/?ref_=chttp_t_97</a>
99	#98	The Apartment	1960	8.3	<a href="https://www.imdb.com/title/tt0053604/?ref_=chttp_t_98">https://www.imdb.com/title/tt0053604/?ref_=chttp_t_98</a>
100	#99	Lawrence of Arabia	1962	8.3	<a href="https://www.imdb.com/title/tt0056172/?ref_=chttp_t_99">https://www.imdb.com/title/tt0056172/?ref_=chttp_t_99</a>

101	#100	2001: A Space Odyssey	1968	8.3	<a href="https://www.imdb.com/title/tt0062622/?ref_=chttp_t_100">https://www.imdb.com/title/tt0062622/?ref_=chttp_t_100</a>
102	#101	Reservoir Dogs	1992	8.3	<a href="https://www.imdb.com/title/tt0105236/?ref_=chttp_t_101">https://www.imdb.com/title/tt0105236/?ref_=chttp_t_101</a>
103	#102	Scarface	1983	8.3	<a href="https://www.imdb.com/title/tt0086250/?ref_=chttp_t_102">https://www.imdb.com/title/tt0086250/?ref_=chttp_t_102</a>
104	#103	Heat	1995	8.3	<a href="https://www.imdb.com/title/tt0113277/?ref_=chttp_t_103">https://www.imdb.com/title/tt0113277/?ref_=chttp_t_103</a>
105	#104	Double Indemnity	1944	8.3	<a href="https://www.imdb.com/title/tt0036775/?ref_=chttp_t_104">https://www.imdb.com/title/tt0036775/?ref_=chttp_t_104</a>
106	#105	Up	2009	8.3	<a href="https://www.imdb.com/title/tt1049413/?ref_=chttp_t_105">https://www.imdb.com/title/tt1049413/?ref_=chttp_t_105</a>
107	#106	North by Northwest	1959	8.3	<a href="https://www.imdb.com/title/tt0053125/?ref_=chttp_t_106">https://www.imdb.com/title/tt0053125/?ref_=chttp_t_106</a>
108	#107	M	1931	8.3	<a href="https://www.imdb.com/title/tt0022100/?ref_=chttp_t_107">https://www.imdb.com/title/tt0022100/?ref_=chttp_t_107</a>
109	#108	Full Metal Jacket	1987	8.2	<a href="https://www.imdb.com/title/tt0093058/?ref_=chttp_t_108">https://www.imdb.com/title/tt0093058/?ref_=chttp_t_108</a>
110	#109	Citizen Kane	1941	8.2	<a href="https://www.imdb.com/title/tt0033467/?ref_=chttp_t_109">https://www.imdb.com/title/tt0033467/?ref_=chttp_t_109</a>
111	#110	Like Stars on Earth	2007	8.3	<a href="https://www.imdb.com/title/tt0986264/?ref_=chttp_t_110">https://www.imdb.com/title/tt0986264/?ref_=chttp_t_110</a>
112	#111	Vertigo	1958	8.2	<a href="https://www.imdb.com/title/tt0052357/?ref_=chttp_t_111">https://www.imdb.com/title/tt0052357/?ref_=chttp_t_111</a>
113	#112	AmÃ©lie	2001	8.3	<a href="https://www.imdb.com/title/tt0211915/?ref_=chttp_t_112">https://www.imdb.com/title/tt0211915/?ref_=chttp_t_112</a>
114	#113	A Separation	2011	8.3	<a href="https://www.imdb.com/title/tt1832382/?ref_=chttp_t_113">https://www.imdb.com/title/tt1832382/?ref_=chttp_t_113</a>
115	#114	Die Hard	1988	8.2	<a href="https://www.imdb.com/title/tt0095016/?ref_=chttp_t_114">https://www.imdb.com/title/tt0095016/?ref_=chttp_t_114</a>
116	#115	To Kill a Mockingbird	1962	8.3	<a href="https://www.imdb.com/title/tt0056592/?ref_=chttp_t_115">https://www.imdb.com/title/tt0056592/?ref_=chttp_t_115</a>
117	#116	Indiana Jones and the Last Crusade	1989	8.2	<a href="https://www.imdb.com/title/tt0097576/?ref_=chttp_t_116">https://www.imdb.com/title/tt0097576/?ref_=chttp_t_116</a>
118	#117	The Sting	1973	8.2	<a href="https://www.imdb.com/title/tt0070735/?ref_=chttp_t_117">https://www.imdb.com/title/tt0070735/?ref_=chttp_t_117</a>
119	#118	A Clockwork Orange	1971	8.2	<a href="https://www.imdb.com/title/tt0066921/?ref_=chttp_t_118">https://www.imdb.com/title/tt0066921/?ref_=chttp_t_118</a>
120	#119	Metropolis	1927	8.3	<a href="https://www.imdb.com/title/tt0017136/?ref_=chttp_t_119">https://www.imdb.com/title/tt0017136/?ref_=chttp_t_119</a>

232	#231	Before Sunset	2004	8.1	<a href="https://www.imdb.com/title/tt0381681/?ref_=chttp_t_231">https://www.imdb.com/title/tt0381681/?ref_=chttp_t_231</a>
233	#232	The Incredibles	2004	8	<a href="https://www.imdb.com/title/tt0317705/?ref_=chttp_t_232">https://www.imdb.com/title/tt0317705/?ref_=chttp_t_232</a>
234	#233	The Exorcist	1973	8.1	<a href="https://www.imdb.com/title/tt0070047/?ref_=chttp_t_233">https://www.imdb.com/title/tt0070047/?ref_=chttp_t_233</a>
235	#234	Hachi: A Dog's Tale	2009	8.1	<a href="https://www.imdb.com/title/tt1028532/?ref_=chttp_t_234">https://www.imdb.com/title/tt1028532/?ref_=chttp_t_234</a>
236	#235	Rush	2013	8.1	<a href="https://www.imdb.com/title/tt1979320/?ref_=chttp_t_235">https://www.imdb.com/title/tt1979320/?ref_=chttp_t_235</a>
237	#236	The Wizard of Oz	1939	8.1	<a href="https://www.imdb.com/title/tt0032138/?ref_=chttp_t_236">https://www.imdb.com/title/tt0032138/?ref_=chttp_t_236</a>
238	#237	The Passion of Joan of Arc	1928	8.1	<a href="https://www.imdb.com/title/tt0019254/?ref_=chttp_t_237">https://www.imdb.com/title/tt0019254/?ref_=chttp_t_237</a>
239	#238	Stand by Me	1986	8.1	<a href="https://www.imdb.com/title/tt0092005/?ref_=chttp_t_238">https://www.imdb.com/title/tt0092005/?ref_=chttp_t_238</a>
240	#239	The Iron Giant	1999	8.1	<a href="https://www.imdb.com/title/tt0129167/?ref_=chttp_t_239">https://www.imdb.com/title/tt0129167/?ref_=chttp_t_239</a>
241	#240	My Father and My Son	2005	8.2	<a href="https://www.imdb.com/title/tt0476735/?ref_=chttp_t_240">https://www.imdb.com/title/tt0476735/?ref_=chttp_t_240</a>
242	#241	The Battle of Algiers	1966	8.1	<a href="https://www.imdb.com/title/tt0058946/?ref_=chttp_t_241">https://www.imdb.com/title/tt0058946/?ref_=chttp_t_241</a>
243	#242	The Handmaiden	2016	8.1	<a href="https://www.imdb.com/title/tt4016934/?ref_=chttp_t_242">https://www.imdb.com/title/tt4016934/?ref_=chttp_t_242</a>
244	#243	Network	1976	8.1	<a href="https://www.imdb.com/title/tt0074958/?ref_=chttp_t_243">https://www.imdb.com/title/tt0074958/?ref_=chttp_t_243</a>
245	#244	Gangs of Wasseypur	2012	8.2	<a href="https://www.imdb.com/title/tt1954470/?ref_=chttp_t_244">https://www.imdb.com/title/tt1954470/?ref_=chttp_t_244</a>
246	#245	Demon Slayer: Kimetsu no Yaiba - The Movie: Mugen Train	2020	8.2	<a href="https://www.imdb.com/title/tt11032374/?ref_=chttp_t_245">https://www.imdb.com/title/tt11032374/?ref_=chttp_t_245</a>
247	#246	The Grapes of Wrath	1940	8.1	<a href="https://www.imdb.com/title/tt0032551/?ref_=chttp_t_246">https://www.imdb.com/title/tt0032551/?ref_=chttp_t_246</a>
248	#247	Drishyam	2015	8.2	<a href="https://www.imdb.com/title/tt4430212/?ref_=chttp_t_247">https://www.imdb.com/title/tt4430212/?ref_=chttp_t_247</a>
249	#248	To Be or Not to Be	1942	8.1	<a href="https://www.imdb.com/title/tt0035446/?ref_=chttp_t_248">https://www.imdb.com/title/tt0035446/?ref_=chttp_t_248</a>
250	#249	Autumn Sonata	1978	8.1	<a href="https://www.imdb.com/title/tt0077711/?ref_=chttp_t_249">https://www.imdb.com/title/tt0077711/?ref_=chttp_t_249</a>
251	#250	Lost Ladies	2023	8.3	<a href="https://www.imdb.com/title/tt21626284/?ref_=chttp_t_250">https://www.imdb.com/title/tt21626284/?ref_=chttp_t_250</a>

## TECHNOLOGY STACK

Category	Technologies Used
Language	Python
Libraries	Selenium, pandas, time, webdriver_manager
Automation	Chrome WebDriver
Output	CSV File
Platform	Windows / Linux / Mac

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## SYSTEM COMPONENTS

### Main Python Script

Controls entire scraping process.

### WebDriver Manager Module

Manages browser driver versioning.

### CSV Output File

Stores the scraped movie data.

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## OUTPUT DETAILS

### The generated CSV contains:

- Rank
- Title
- Release Year
- IMDb Rating
- URL

Example:

Rank	Title	Year	Rating	URL
1	The Shawshank Redemption	1994	9.3	<a href="https://...">https://...</a>
2	The Godfather	1972	9.2	<a href="https://...">https://...</a>

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## KEY ACHIEVEMENTS

**Successfully automated IMDb data extraction**

**Handles JavaScript-rendered web pages**

**Clean & structured CSV output**

**Fully scalable scraping architecture**

**Works with visible or headless browser**

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## LIMITATIONS

**Requires internet connection**

**Cannot bypass CAPTCHA if IMDb blocks automation**

**No historical tracking**

**No database storage**

**Only scrapes Top 250 page**

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## FUTURE ENHANCEMENTS

- Scrape movie genre, cast, director
- Scrape IMDb trending movies & box office
- Store data in SQL or MongoDB
- Build movie analytics dashboard
- Use API instead of scraping
- Add ML-based movie recommendation system

## CONCLUSION

The **IMDb Movie Rating Scraper** is a robust mini-project that demonstrates strong skills in:

- ✓ Python scripting
- ✓ Web automation
- ✓ Data scraping
- ✓ Data processing
- ✓ CSV export

It provides an excellent foundation for larger data engineering or movie analytics applications.

The system is reliable, extendable, and fully functional, making it a valuable contribution to automation and data extraction projects.