
Record Prediction Model

Left for dead with the advent of CDs in the 1980s, vinyl records are now the music industry's most popular and highest-grossing physical format.

with fans choosing it for collectibility, sound quality or simply the tactile experience of music in an age of digital ephemerality. After growing steadily for more than a decade, LP sales exploded during the pandemic.

When a record is ageing well, it will become more limited on the one hand and more wanted on the other hand.

**ITEMS
SOLD**

1,800,000

1,600,000

1,400,000

1,200,000

1,000,000

800,000

2019
2020

JAN.

FEB.

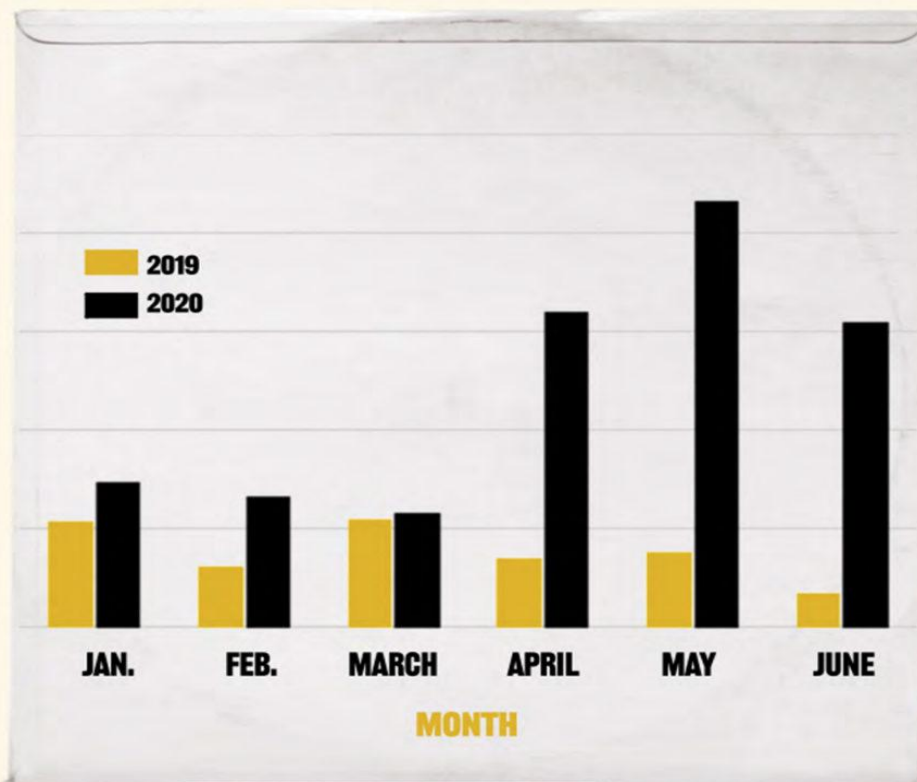
MARCH

APRIL

MAY

JUNE

MONTH



In the first six months of this year, 17 million vinyl records were sold in the United States, generating \$467 million in retail revenue, nearly double the amount from the same period in 2020.

People purchased US\$1.2 billion of records in 2022, a 20% jump from the previous year.

Not only did sales rise, but they also surpassed CD sales for the first time since 1988, according to a new report from the Recording Industry Association of America.

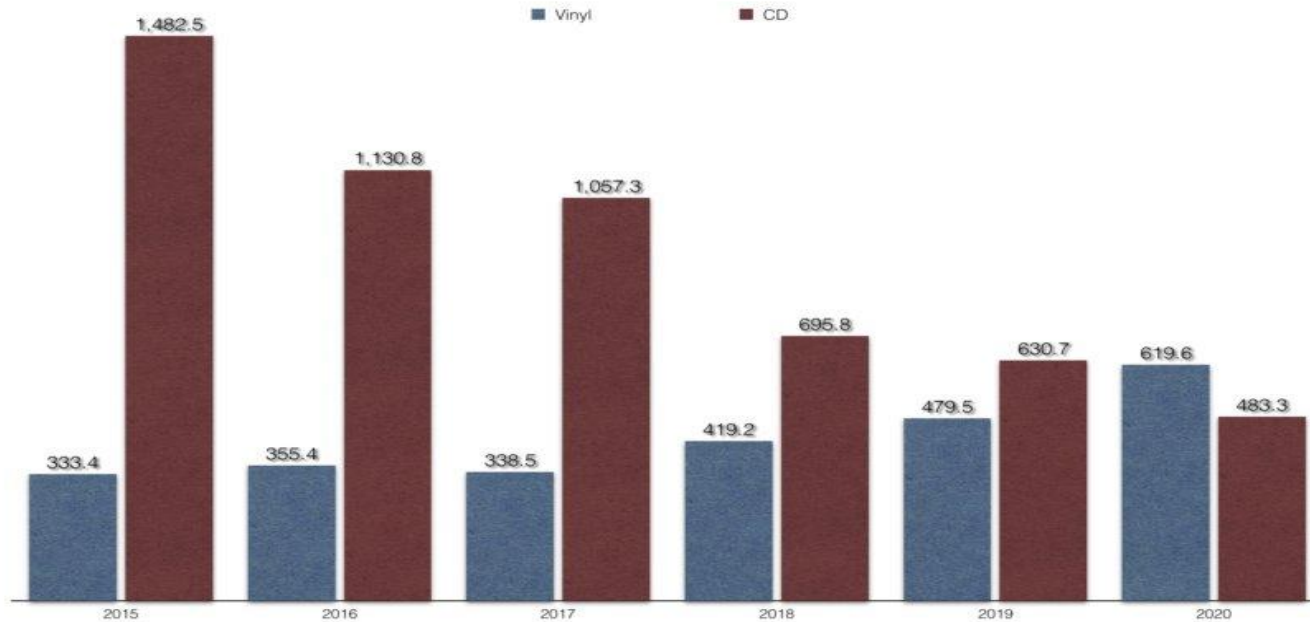
PHYSICAL

(Units Shipped) (Dollar Value)	CD	47.5 \$630.7	31.6 \$483.3	-33.6% -23.4%
	LP/EP	18.5 \$479.5	22.9 \$619.6	23.6% 29.2%
	Music Video	1.3 \$25.8	1.0 \$27.4	-20.9% 6.2%
	Other Physical ^a	0.4 \$8.5	0.5 \$8.8	24.0% 3.1%
	Total Physical Units	67.7	55.9	-17.4%
	Total Physical Value	\$1,144.6	\$1,139.1	-0.5%

TOTAL DIGITAL AND PHYSICAL

	Total Units^a	445.0	355.9	-20.0%
	Total Value	\$11,130.4	\$12,153.4	9.2%
	% of Shipments¹⁰	2019	2020	
	Physical	11%	10%	
	Digital	89%	90%	

US recorded music: Annual CD sales vs vinyl LP/EP (\$m)

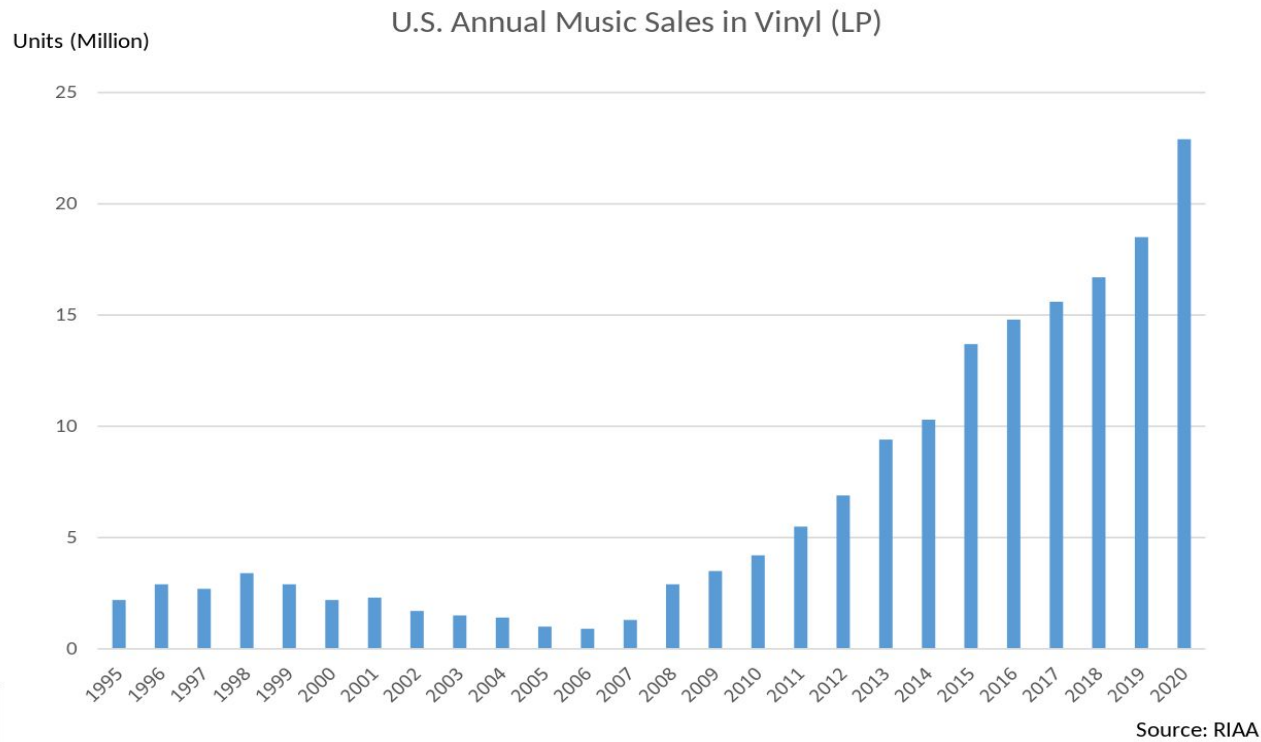


Source: RIAA year-end reports / sales database

Physical recordings are now just a sliver of the overall music business — streaming is 84 percent of domestic revenue — but they can be a strong indication of fan loyalty, and stars like Taylor Swift and Olivia Rodrigo make vinyl an important part of their marketing.

Annual bestselling LPs in the US [edit]

Year	Album	Artist	Sales
2008	<i>In Rainbows</i>	Radiohead	25,800 ^[103]
2009	<i>Abbey Road</i>	The Beatles	34,800 ^[103]
2010			35,000 ^[104]
2011			41,000 ^[105]
2012	<i>Blunderbuss</i>	Jack White	34,000 ^[105]
2013	<i>Random Access Memories</i>	Daft Punk	49,000 ^[106]
2014	<i>Lazaretto</i>	Jack White	87,000 ^[106]
2015	<i>25</i>	Adele	116,000 ^[92]
2016	<i>Blackstar</i>	David Bowie	54,000 ^[107]
2017	<i>Sgt. Pepper's Lonely Hearts Club Band</i>	The Beatles	72,000 ^[94]
2018	<i>Guardians of the Galaxy: Awesome Mix Vol. 1</i>	Various Artists	84,000 ^[108]
2019	<i>Abbey Road</i>	The Beatles	246,000 ^[109]
2020	<i>Fine Line</i>	Harry Styles	232,000 ^[110]
2021	<i>30</i>	Adele	318,000 ^[111]
2022	<i>Midnights</i>	Taylor Swift	945,000 ^[47]



What level of price prediction accuracy is it possible to achieve using common algorithms and a dataset of 8000 vinyl records?

Motivation

The idea for this project came due to the above and the try to change this system and give the seller an option to add their inventory and to predict with our model the prices that might fit to the records.



In the past I used to work in a few records store and some of them used the Discogs option to add it to their Discog store and understand how to price the record and then add it to their site one by one or via a csv file.

Discogs is a popular online database and marketplace for music. It was launched in 2000 and has since grown to become one of the largest and most comprehensive music databases on the internet, with over 13 million releases and 7 million artists.

Shop Kanye West - The College Dropout (All Versions)

1 – 25 of 530 < Prev Next >

Sort Listed Newest Show 25

	Sort By: Listed, Condition, Artist, Title, Label	Seller	Price	
 <div>Rated: 4.51 20475 have 9888 want</div>	Kanye West - The College Dropout (2xLP, Album) Label: Roc-A-Fella Records, Hustle., Handprint Entertainment Cat#: B0002030-01 Media Condition: Mint (M) ⓘ Sleeve Condition: Mint (M) SEALED - NEW ! View Release Page	recordmen ★★★★☆ 99.9%, 689 ratings Ships From: Germany	€139.99 +€7.99 shipping €147.98 total	<div>Add to Cart</div> <div>Details</div>
 <div>Rated: 4.21 1362 have 411 want</div>	Kanye West - The College Dropout (CD, Album) Label: Roc-A-Fella Records, Roc-A-Fella Records Cat#: 9862061, 986 2061 Media Condition: Mint (M) ⓘ Sleeve Condition: Mint (M) BRAND NEW- unplayed! Shipping from berlin/germany. Shipping costs worldwide-> airmail: CD 3.95 Euro, Vinyl 4.95 Euro, Tracked: CD 5.95 Euro, Vinyl 6.95 Euro, Itemdata: Kanye West- The College Dropout (Mercury Records Ltd (london),CD) View Release Page	groovesland ★★★★☆ 98.5%, 147,146 ratings Ships From: Germany	€7.49 +€2.95 shipping €10.44 total	<div>Add to Cart</div> <div>Details</div>

Users can search for and browse music releases, artists, labels, and more, and can also buy and sell music through the Discogs marketplace. The website is free to use for browsing and searching, but fees are charged for buying and selling items.

In addition to the marketplace, Discogs also offers various tools and features for music collectors and enthusiasts, such as a collection management system, a wantlist feature, and a forum for discussions and community interaction.

I have used data from Discogs which is a Marketplace for buying and selling new and used records that is used either by private and store sellers.

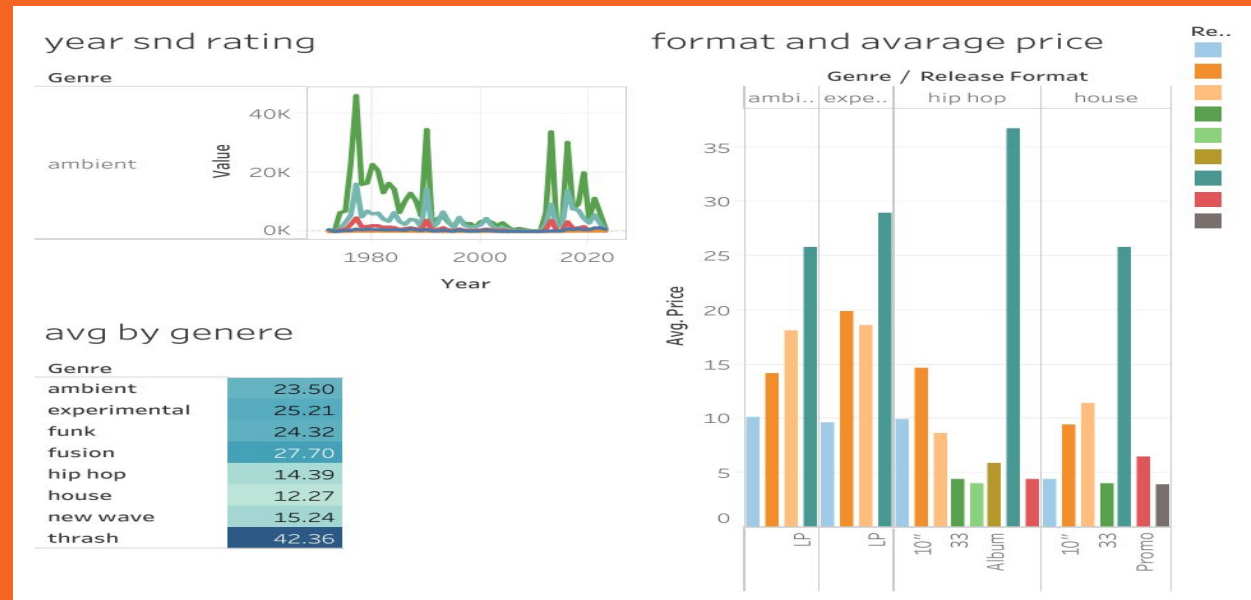
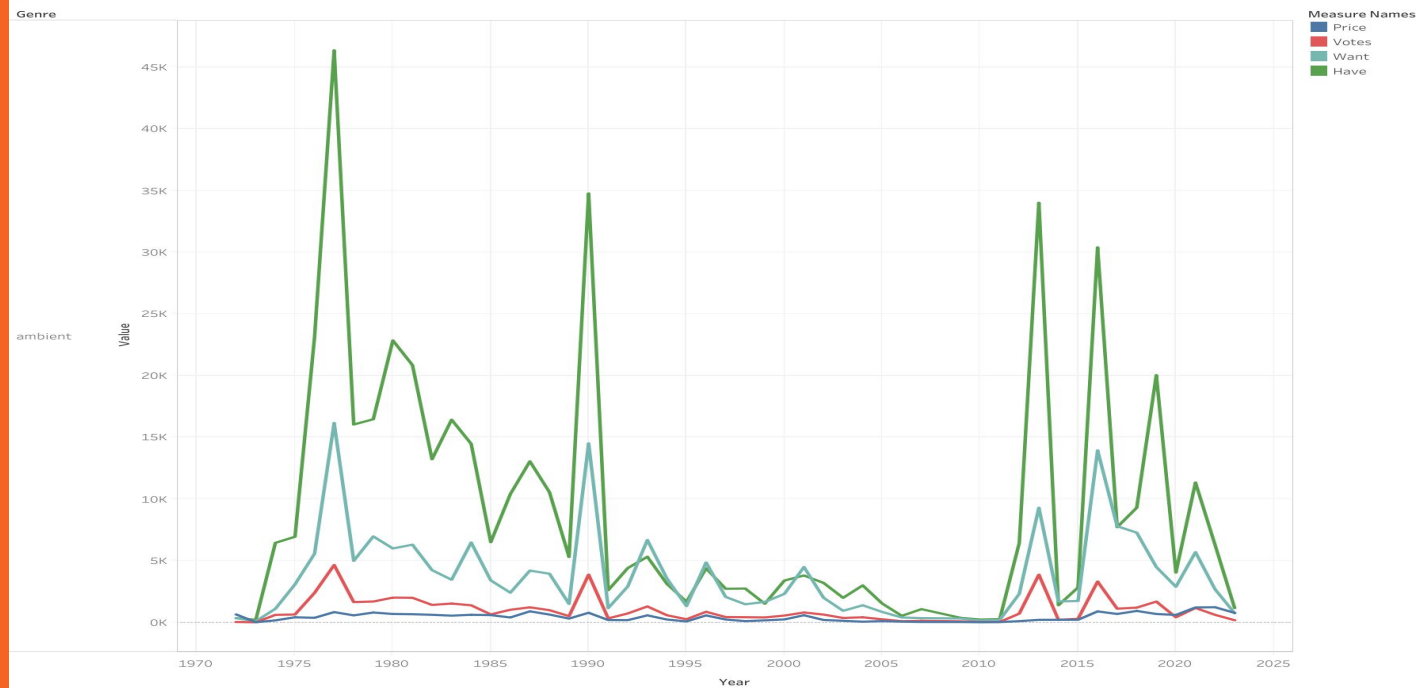


Tableau Link:

https://public.tableau.com/app/profile/adv.toledano/viz/finalproject_16819918176310/Dashboard1

year snd rating



We embarked on a project to predict the prices of vinyl records using data from Discogs, a marketplace for buying and selling new and used records. Our model analysed approximately 8,000 records from multiple genres and achieved a score of around 0.43 (with a RandomForestRegressor).

While the results were not as we had hoped, the project has given us insights for future directions to take.


	ValType	R2-Score	MSE	RMSE
0	Train	0.918827	116.255259	10.782173
1	Test	0.438901	526.961734	22.955647

results_df		
	Actual	Predicted
6457	16.50	12.589000
1906	8.90	6.563500
6279	23.00	33.399000
4192	11.80	18.532400
3246	8.80	3.900100
...
1265	7.25	12.889433
5247	12.82	19.281750
4713	23.99	24.811500
1608	45.00	34.582600
5588	220.00	73.069300


In the future, we plan to refine the model by dropping some columns or adding others, as we believe this will give our model more accurate pricing options.


Additionally, we hope to explore other potential applications for the model, such as : predicting the price of another store's inventory or estimating the worth of a users personal record collection and recommend what should be purchased next to raise sales and the revenue for the store.

Example of options that can help the model:

Release  [r12113724]

[Edit Release](#)
New Submission

 Add to Collection

 Add to Wantlist

Marketplace **14 For Sale from €6.54**


Buy Vinyl

Sell Vinyl

Statistics

Have:	88	Last Sold:	Jul 13, 2022
Want:	52	Lowest:	€6.83
Avg Rating:	4.57 / 5	Median:	€10.16
Ratings:	7	Highest:	€11.32

☆☆☆☆☆

 Share

In conclusion, While more work is needed to refine the model and explore other applications, we are excited about the possibilities this technology holds for the vinyl record industry and beyond it as it can be might be alternatively be used in other retail markets .

Questions ?

Thank you for listening and for your patience :)
