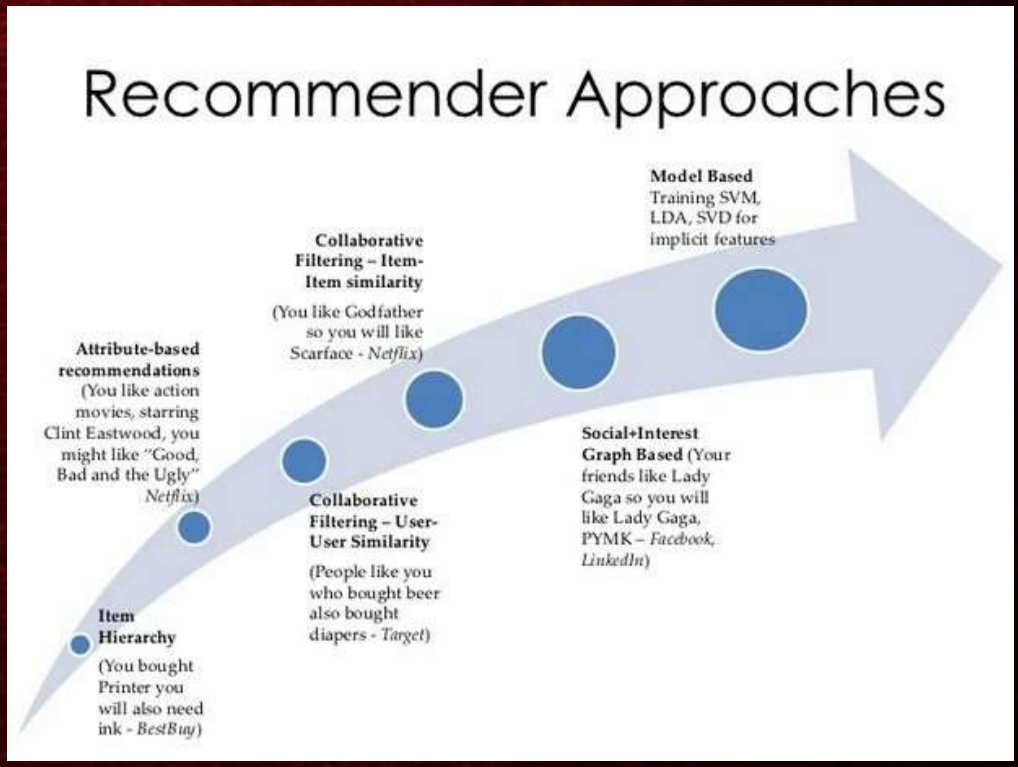
Movie Recommendation System: A Business Approach

By

Roland Villafuerte

What is It?

- Information
- People
- Items
- Consume



Who Cares?

Revenue

- Subscriptions
- Ads
- Control of items

MovieLens

- 100k Ratings
- 600 Users
- 9,700 Movies

Top “N” Recommender

- Most Common
- Items on List
- Rank Importance

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Using recommender  RBM - Tuned

We recommend:
Departed, The (2006) 2.892468
Howl's Moving Castle (Hauru no ugoku shiro) (2004) 2.8908362
Fight Club (1999) 2.8869665
Memento (2000) 2.8868942
Inside Out (2015) 2.8860178
Monsters, Inc. (2001) 2.8839574
Spirited Away (Sen to Chihiro no kamikakushi) (2001) 2.8832886
Finding Nemo (2003) 2.8820338
Godfather, The (1972) 2.8793077
How to Train Your Dragon (2010) 2.8788555
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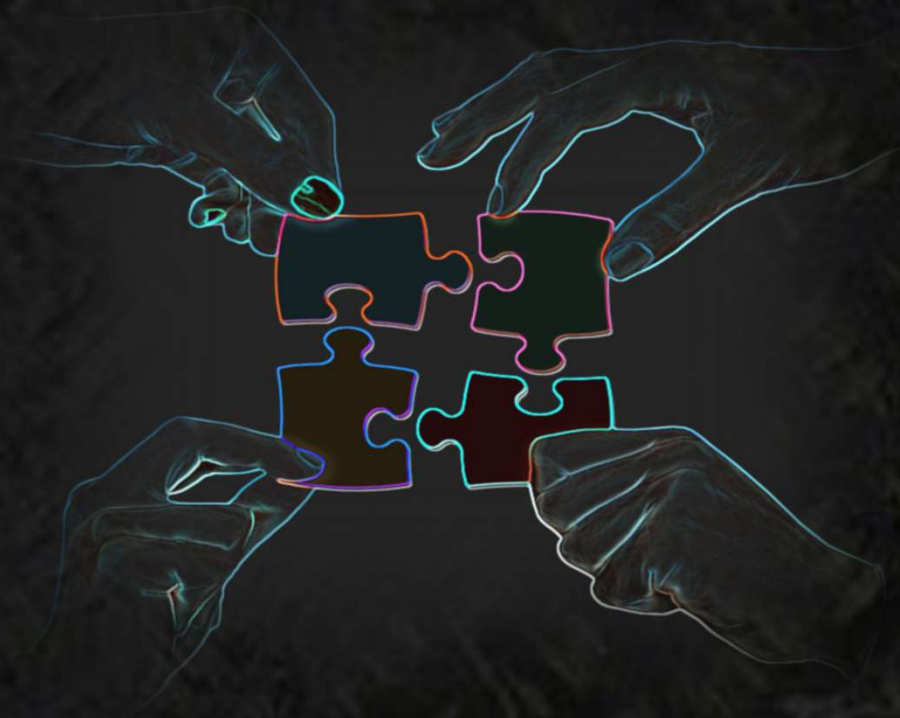
Metrics

- 2 for accuracy
- 3 user-focused
- 3 systemic



Qualitative

Total amount of movies with ratings of 4.0 and higher is 26

	userId	movieId	rating	timestamp	title	genres
37040	25	5952	5.0	1535470419	Lord of the Rings: The Two Towers, The (2002)	Adventure|Fantasy
17666	25	91529	5.0	1535470498	Dark Knight Rises, The (2012)	Action|Adventure|Crime|IMAX
70944	25	122912	5.0	1535470461	Avengers: Infinity War - Part I (2018)	Action|Adventure|Sci-Fi
57573	25	180095	5.0	1535470476	Wonder (2017)	Drama
57565	25	177593	5.0	1535470532	Three Billboards Outside Ebbing, Missouri (2017)	Crime|Drama
57119	25	116797	5.0	1535470507	The Imitation Game (2014)	Drama|Thriller|War
47206	25	60069	5.0	1535470523	WALL·E (2008)	Adventure|Animation|Children|Romance|Sci-Fi
42328	25	68954	5.0	1535470493	Up (2009)	Adventure|Animation|Children|Drama
37951	25	7153	5.0	1535470418	Lord of the Rings: The Return of the King, The...	Action|Adventure|Drama|Fantasy
1577	25	260	5.0	1535470429	Star Wars: Episode IV - A New Hope (1977)	Action|Adventure|Sci-Fi
35939	25	4993	5.0	1535470421	Lord of the Rings: The Fellowship of the Ring,...	Adventure|Fantasy
70999	25	187593	5.0	1535470534	Deadpool 2 (2018)	Action|Comedy|Sci-Fi
17469	25	79132	5.0	1535470428	Inception (2010)	Action|Crime|Drama|Mystery|Sci-Fi|Thriller|IMAX
17246	25	68157	5.0	1535470515	Inglourious Basterds (2009)	Action|Drama|War
17073	25	58559	5.0	1535470524	Dark Knight, The (2008)	Action|Crime|Drama|IMAX
15668	25	3578	5.0	1535470497	Gladiator (2000)	Action|Adventure|Drama

Content

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Using recommender  ContentKNN

We recommend:
Ant-Man and the Wasp (2018) 4.745049799879
The Darkest Minds (2018) 4.7450497998793395
Annihilation (2018) 4.7450497998793395
Game Night (2018) 4.7450497998793395
Tomb Raider (2018) 4.7450497998793395
Alpha (2018) 4.7450497998793395
Solo: A Star Wars Story (2018) 4.74504979
Fred Armisen: Standup for Drummers (2018)
Tom Segura: Disgraceful (2018) 4.74504979
When We First Met (2018) 4.7450497998793395
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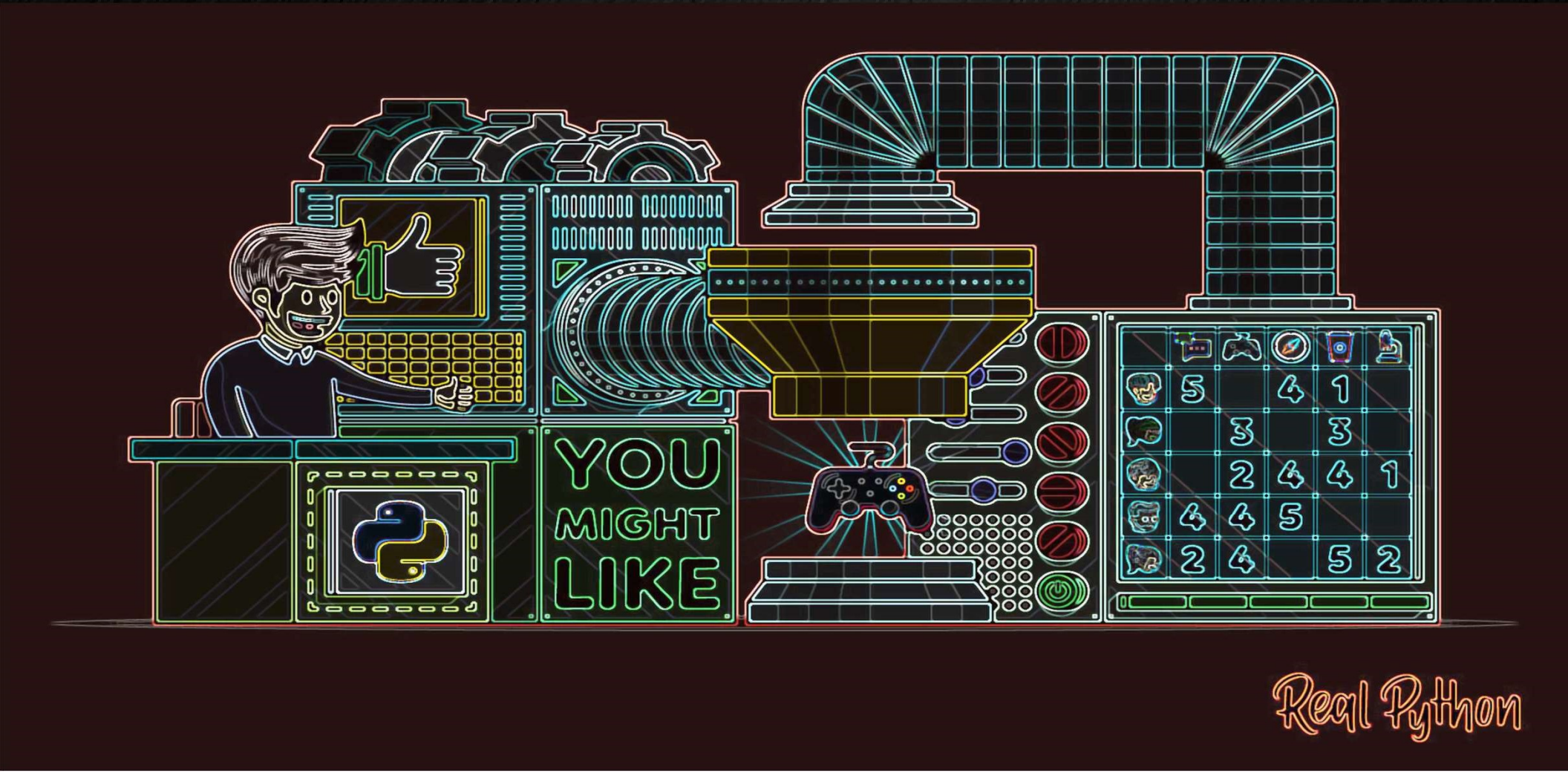
- Like items
- Genre / Year
- “Popular”

Machine Learning



Machine Learning

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Using recommender  Hybrid - 9.4.07
We recommend:
Usual Suspects, The (1995) 5
Pulp Fiction (1994) 5
Star Wars: Episode V - The Empire Strikes Back (1980) 5
Princess Bride, The (1987) 5
Fight Club (1999) 5
Shawshank Redemption, The (1994) 5
Departed, The (2006) 5
Philadelphia Story, The (1940) 5
Life Is Beautiful (La Vita Ã¨ bella) (1997) 5
In the Mood For Love (Fa yeung nin wa) (2000) 5
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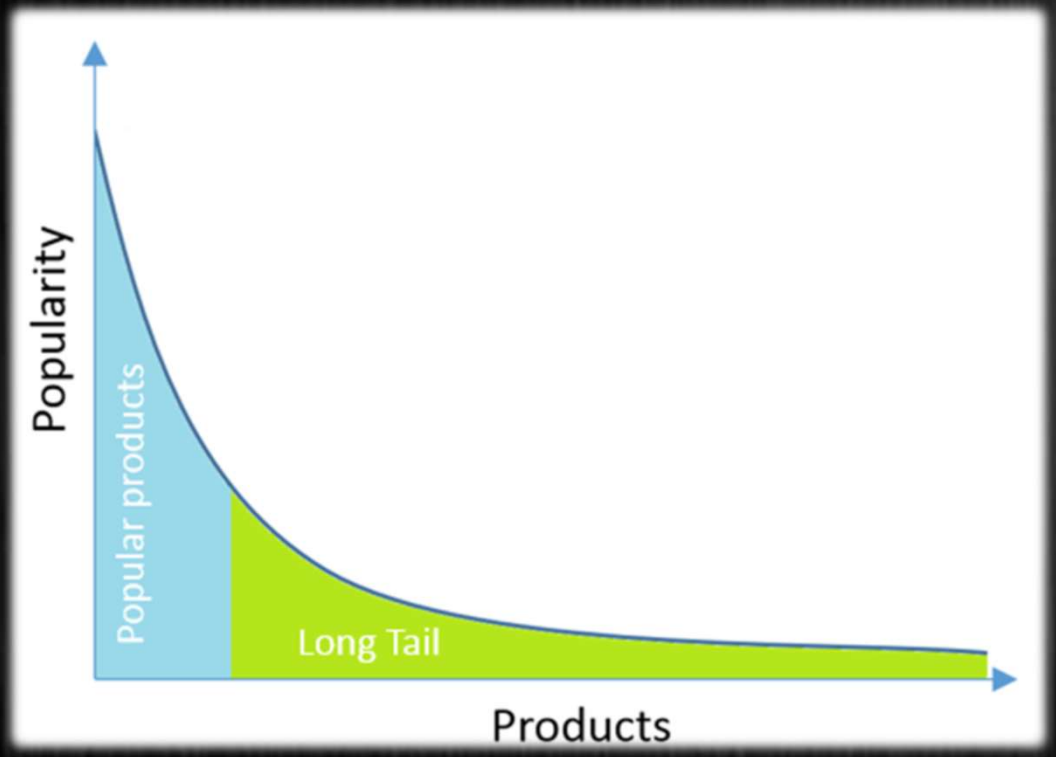
- User-Items
- Hidden Patterns
- Proven Technique
- “Watch History”

Long Tail



- Random
- 80/20 Rule
- Niche

Random

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Using recommender  Random

We recommend:
Star Wars: Episode V - The Empire Strikes Back (1980)
Warrior (2011) 1
Corrina, Corrina (1994) 1
It Could Happen to You (1994) 1
Hot Shots! Part Deux (1993) 1
Up in the Air (2009) 1
Life of Pi (2012) 1
Amistad (1997) 1
Johnny Mnemonic (1995) 1
The Hunger Games (2012) 1
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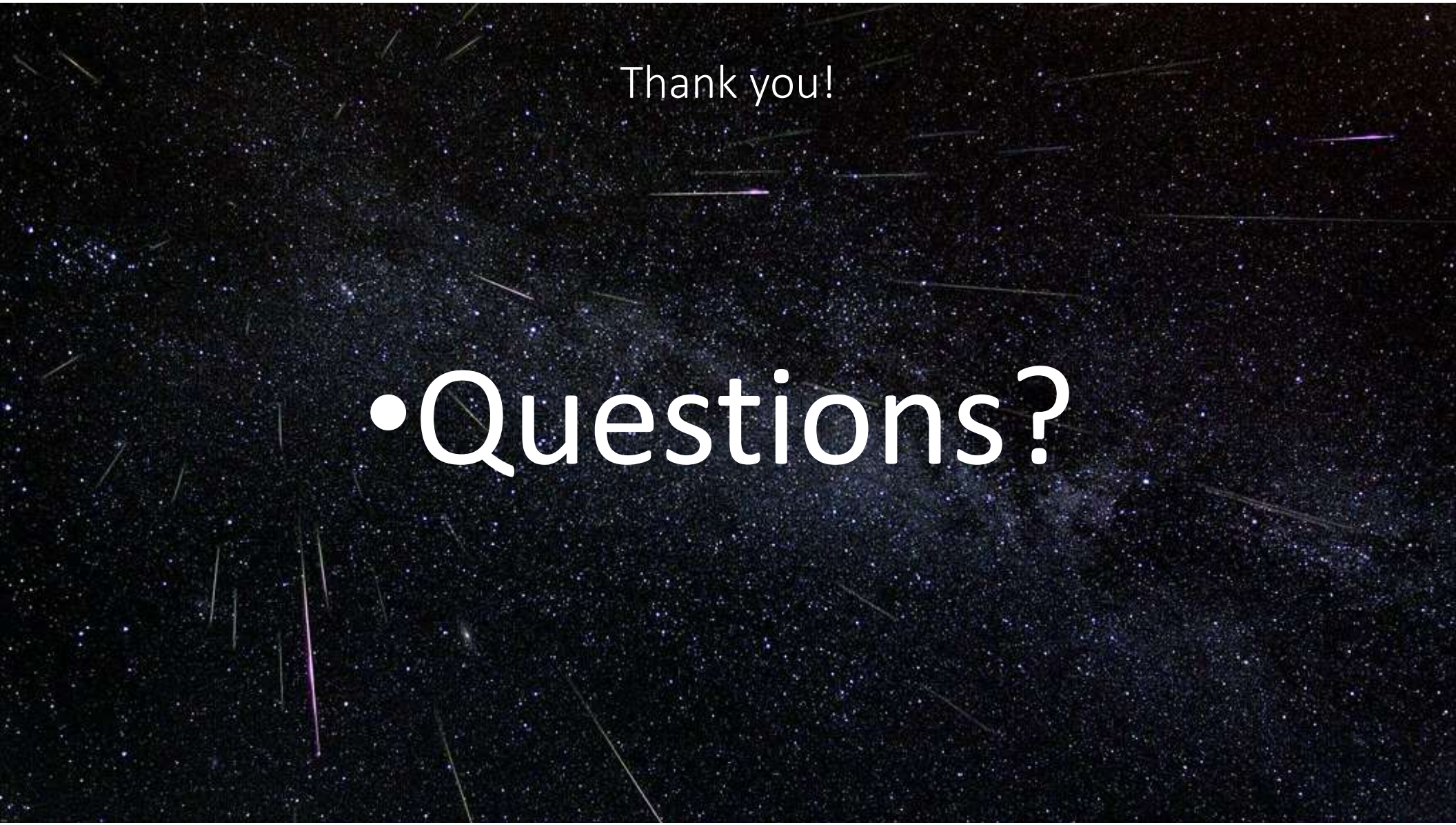
Conclusion

- Proven
- Content
- Business


Thank you!
•Questions?