

Big Data and Knowledge

Movie recommenders revisited



BIG DATA AND KNOWLEDGE

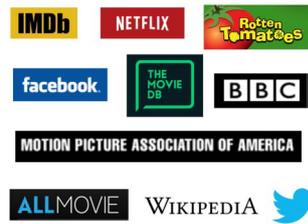
Problem

- ▶ A new movie is coming today to a theatre near the user location
 - ▶ Recommend it or not?

Relevant data

- ▶ Movie info
 - ▶ Title, Genre, Director, Actors,...
- ▶ Ratings
 - ▶ movieLens, imdb, social media,...
- ▶ Script and textual info
 - ▶ synopses, critics, post production scripts,...
- ▶ Image and video content
 - ▶ trailers, photos,...
- ▶ User preferences
 - ▶ movie likes-dislikes, usage history,...

RELEVANT DATA AND KNOWLEDGE



Relevant data sources

- ▶ Domain knowledge bases and related services
 - ▶ IMDb, Netflix, movieLens, TheMovieDB, The Movie Ontology,...
- ▶ Social media and more
 - ▶ twitter, instagram, facebook, BBC news :: culture,...
- ▶ Local websites and portals
 - ▶ athinorama.gr, theatre websites,...
- ▶ The “usual suspects”
 - ▶ wikipedia, chatGPT, google...

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RELEVANT DATA AND KNOWLEDGE

La La Land (2016)
124 2h from Comedy, Drama, Music 13 January 2017 (UK)
8.0
556,461 Rate This

Director: Damien Chazelle
Stars: Ryan Gosling, Emma Stone, Rosemarie DeWitt See full cast & crew »

Metascore: 88 From metascore.com
Reviews: 1,885 user 700 critic
Popularity: 454 (# 29)

La La Land
From Wikipedia, the free encyclopedia

For other uses, see La La Land (disambiguation).

La La Land is a 2016 American musical romantic comedy-drama film written and directed by Damien Chazelle. It stars Ryan Gosling as a jazz pianist and Emma Stone as an aspiring actress, who meet and fall in love while pursuing their dreams in Los Angeles. John Legend, Rosemarie DeWitt, Finn Wittrock, and J. K. Simmons also star.

Having been fond of musicals during his time as a drummer, Chazelle first conceptualized the film alongside Justin Hurwitz while attending Harvard University together. After moving to Los Angeles in 2010, Chazelle wrote the screenplay but did not find a studio willing to finance the production without changes to his design. Following the success of his 2014 film *Whiplash*, the project was picked up by Summit Entertainment. Filming took place in Los Angeles from August to September 2015, with the film's score composed by Hurwitz and the dance choreography by Mandy Moore.

La La Land premiered at the Venice Film Festival on August 31, 2016, and was released in the United States on December 9, 2016. It grossed \$446 million worldwide against a production budget of \$30 million. The film was praised for Chazelle's screenplay and direction, Gosling and Stone's performances, the musical score, musical numbers, visuals, cinematography, and production design. It won a record-breaking seven awards from its seven nominations at the 74th Golden Globes and received eleven nominations at the 70th British Academy Film Awards, winning five awards, including Best Film. It also received a record-tying fourteen nominations at the 89th Academy Awards, winning in six categories, including Best Director for Chazelle and Best Actress for Stone.

Contents [hide]

- PLOT
- CAST

Instagram

lalaland Follow

379 posts 186k followers 15 following

La La Land
#LALALAND - now on Blu-ray, DVD & Digital HD. Winner of 6 Academy Awards! Ryan Gosling & Emma Stone star in this music-filled masterpiece.
bit.ly/LaLaLandmovie

POSTS IGTV TAGGED

Audience reviews

★★★★★
After an astounding Whiplash (2014), director Damien Chazelle is back with yet another awe-inspiring tale of music and passion in the form of La La Land which stars Ryan Gosling and Emma Stone in lead roles. As magical as the title suggests, the film takes viewers on ...

★★★★★
"I guess I'll see you in the movies". Back in 2014, there was a film called "Whiplash" that blew everyone away, including me. It was my 2nd favorite movie of that year and I had my eye out for the director next project. Wasn't very long until Damien Chazelle next film in was in ...

★★★★★
I loved the film La La Land. There is no doubt why it received so many awards, not to forget it won so many awards at Oscar. At first I was getting bored since I am not a fan of "Jazz" plus the whole film has less dialogue and more of dance and music. Initially, the characters ...

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RELEVANT DATA AND KNOWLEDGE

Google search for "La La Land" showing search results, cast list, and movie details. The search results include the number of results (3,150,000,000), the movie title, release year (2016), genre (Musical/Romance), and duration (2h 8m). The cast list includes Emma Stone, Ryan Gosling, J.K. Simmons, John Legend, Sonoya Mizuno, and Finn Wittrock. The movie details section includes the IMDb rating (8/10), Rotten Tomatoes score (91%), and a brief synopsis.

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RELEVANT DATA AND KNOWLEDGE

Google search for "La La Land" with annotations. The search results are categorized into "Top results" and "Unexpected - Useful". The "Top results" section includes links to Rotten Tomatoes, Netflix, Star TV, Instagram, Lionsgate, Facebook, and Public.gr. The "Unexpected - Useful" section includes a Lionsgate promotional image and a public.gr search result. Annotations highlight the Lionsgate and Public.gr results as "Unexpected - Useful" and "Unexpected - Not very Useful" respectively.

Unexpected - Not very Useful

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RELEVANT DATA AND KNOWLEDGE

lalaland.com.au
<https://www.lalaland.com.au> · Melbourne

Deep results

Melbourne — La La Land

A hidden gem within the heart of Melbourne's CBD, La La Land is the perfect place for an intimate date night, an after work catch up or a get together with ...

Expected - Not useful



RELEVANT DATA AND KNOWLEDGE

Metacritic
<https://www.metacritic.com>

Deep results

Metacritic - Movie Reviews, TV Reviews, Game Reviews, and ...

Metacritic aggregates music, game, tv, and movie reviews from the leading critics. Only Metacritic.com uses METAScores, which let you know at a glance how ...

Unexpected - Very useful

metacritic search... GAMES MOVIES TV MUSIC NEWS Sign In

Metascore
 94 POSITIVE: 52 MIXED: 2 NEGATIVE: 0

User Score
 8.4 POSITIVE: 2,012 MIXED: 199 NEGATIVE: 154

Critic Reviews

- 100 The Observer**
 Mark Kermode Apr 13, 2019
 Like the musical itself, the film has timeless charm and a brave sense of adventure. Bravo! [Read full review](#)
- 100 The Times-Picayune**
 Mike Scott Dec 13, 2016
 La La Land is a film with strikingly broad appeal. Whether you're a "Star Wars" geek or a hopeless romantic, a jazz fan or somebody who complains they just don't make 'em like they used to anymore, you'll la-la love it. [Read full review](#)
- 100 The Telegraph**
 Robbie Collin Aug 31, 2016
 La La Land wants to remind us how beautiful the half-forgotten dreams of the old days can be – the ones made up of nothing more than faces, music, romance and movement. It has its head in the stars, and for a little over two wonderstruck hours, it lifts you up there too. [Read full review](#)
- 100 The Washington Post**
 Ann Hornaday Dec 15, 2016
 The real star in La La Land is the movie itself, which pulses and glows like a living thing in its own right, as if the MGM musicals of the "Singin' in the Rain" era had a

User Reviews

- 10 yadhukrishna**
 Mar 25, 2019
 the best musical comedy I had ever seen simply outstanding Emma, Ryan both had done great efforts to make mia and Sebastian alive
- 10 November8**
 Jan 4, 2017
 It is both very strange and fascinating that this movie is in my head for like one week and the best thing, is that I want to see it one more time, or even more than one more time. This is one of the best movie I have ever seen. 10/10!
- 10 Moviebuffreview**
 Dec 9, 2016
 After watching this film at the Chicago International Film Festival, my original plan was to wait until closer to the film's actual release date to give my thoughts on it. However, after sitting with it for two days, my mind, I cannot help... [Expand](#)
- 9 yezo**
 Jan 7, 2017
 This review contains spoilers, click expand to view.

Review
 La La Land review - worth making a song and dance about

Mark Kermode's film of the week
 La La Land

Mark Kermode Observer
 @MarkKermode
 Sun 15 Jan 2017 08:15 GMT
 245

On the "best picture" Emma Stone with Ryan Gosling in Damien Chazelle's heartwarming La La Land. Photograph: Kate Linsford

Emma Stone and Ryan Gosling lay on the charm in Whiplash. Director Damien Chazelle's sign of new talent in the golden age of Hollywood

That "best picture" Emma Stone with Ryan Gosling in Damien Chazelle's heartwarming La La Land. Photograph: Kate Linsford

That he had made The Adventure of Priscilla, Queen of the Desert in being a true musical back from the great old ones. Kermode had put them. Yet despite reports of their death, musicals have never gone away, providing the backbone of the movie business in key venues such as hotels, and regularly flourishing elsewhere across the globe. In 2004, Phylicia Rashad's film of the African American Marjorie's second husband (D) in opening the way for the genre on Netflix et al, while stage-to-screen adaptations, from Chicago to La Moulinette, have consistently charmed Oscar voters in America.

Alongside the Lutheran's Maudie (Ruger), early 20th-century cinema has given us everything from Liza von Trier's Dancer in the Dark to Japanese production Takashi Miike's The Disappearance of the Kikakuchi and Irish music John Carney's Singin' in the Rain, Again, and Sing Street.

Musicals, from Broadway and High School Musical, and Disney hits such as Frozen and Disney, have continued to introduce young viewers to the age-old magic of musicals.

Enter La La Land, writer-director Damien Chazelle's thoughtful follow-up to Whiplash, which last week swept the board at the Golden Globes. Since debuting at Venice last year, Chazelle's second musical effort has taken by storm and has become a cult classic (it has been hailed as doing for the genre what The Artist did for silent movies).

Indeed, from its cheeky "presented in CinemaScope" opening, through its "Singin' in the Rain" homage and heavily allegorical look to confidence, La La Land invites us to welcome the return of something lost, the revival of a golden age. Yet as delightful as it may be, it is no more than the musical than The Adventure of Priscilla did all those years ago. It is simply a splendid continuation of cinema's ever-evolving love affair with song and dance.

RELEVANT DATA AND KNOWLEDGE

The screenshot shows a search engine interface with the query "Give me some information about La La Land". The results are displayed in a grid format. The main result is a text-based overview of the film "La La Land", including its genre, director, cast, and plot. The text describes it as a musical romantic comedy-drama film directed by Damien Chazelle, released in 2016, starring Ryan Gosling and Emma Stone. It mentions the film's critical acclaim, awards (including 14 Academy Awards), and its success at the box office. The plot follows Mia and Sebastian as they navigate their careers and romantic relationship in modern-day Los Angeles. The film is noted for its visually stunning and colorful cinematography, featuring elaborate musical numbers and dance sequences. The original songs and score were composed by Justin Hurwitz, with lyrics by Benj Pasek and Justin Paul. The film's success revived interest in the musical genre and demonstrated its enduring appeal.

RELEVANT DATA AND KNOWLEDGE

Great deal of multimodal information about La La Land!

Tabular

Title	Genres	Duration	Director	Writer	Stars	...
La La Land	Musical	2h 8m	Damien Chazelle	Damien Chazelle	Ryan Gosling, Emma Stone, Rosemarie DeWitt	...

Images



Videos



Audio

1 Farida - HAUSER - Mia Sebastian's Theme - La La Land - ▶ 799K

2 Hanan Gobran - Will Always Love You | La La Land ▶ 14.2K

3 Belle - Blue Moon ▶ 45.4K

La La Land (Original Motion Picture Soundtrack)

Another Day of Sun

Composed by Justin Hurwitz

Texts

LA LA LAND

Written by
Damien Chazelle

FADE IN...

A sun-blasted sky. We HEAR radios — one piece of music after another...

We're —

EXT. 101 FREEWAY — DAY

Cars are at a standstill. It's a horrific traffic jam. Morning rush hour. Sun beating down, asphalt shimmering in the heat. The blown-out downtown L.A. skyline hovers in the distance.

We DRIFT past more CARS. Hear one snippet of audio after another...

One driver taps his steering wheel to PROG ROCK. Another sings to OPERA. A third raps along to a HIP-HOP track. We move from a RADIO INTERVIEW to a FRENCH BALLAD to TECHNO, until finally we begin to hear...

...a new, original piece of music... [ANOTHER DAY OF SUN]

We settle on the CAR from which this new tune is playing. The driver is a YOUNG WOMAN. She hums along to the riff on her radio — then starts SINGING.

Then — she EXITS her car. Then — she starts MOVING down the lane.

One by one, more DRIVERS join her — SINGING and DANCING along. Without a single cut, we've found ourselves in a FULL-FLEDGED MUSICAL NUMBER...

Drivers leap on car-tops, dance Jerome Robbins-style, making use of the road and the hot gleam of the automobiles. Arms swaying, feet banging, dancers darting, as the MUSIC blasts. We WEAVE and SWIRL and DART between and around the cars, taking the magic in...

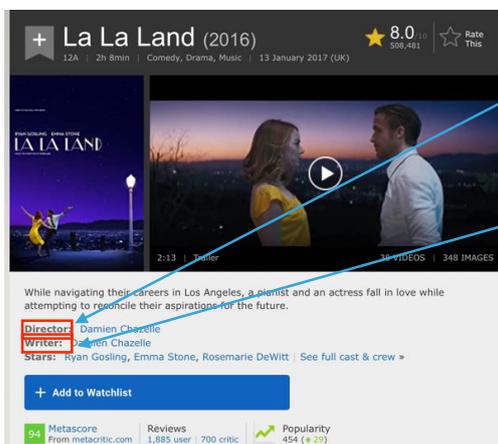
Finally — all the drivers swing back into their vehicles — and the song comes to a dramatic stop.

Artificial intelligence and data analysis

- ▶ Knowledge representation and automated reasoning
 - ▶ Semantic data description: understand the data using knowledge
 - ▶ Data integration using terminologies
 - ▶ Semantic query answering over big heterogeneous data
 - ▶ Data and knowledge enrichment using data analysis and reasoning
- ▶ Machine learning
 - ▶ Understanding numerical, non-categorical data
 - ▶ Understanding unstructured and raw data (text, image, sound, music, video, time series etc)
 - ▶ Generative models, large language models - new forms of data access

Artificial intelligence and data analysis

- ▶ Knowledge representation and automated reasoning
 - ▶ Semantic data description: understand the data using knowledge



Terminology

Director, Comedy, FeatureFilm, ScriptWriter

Director(Damien Chazelle)
ScriptWriter(Damien Chazelle)

DATA, KNOWLEDGE AND ARTIFICIAL INTELLIGENCE

Artificial intelligence and data analysis

- ▶ Knowledge representation and automated reasoning
- ▶ Data integration using terminologies

Director(Damien Chazelle)
ScriptWriter(Damien Chazelle)

DATA, KNOWLEDGE AND ARTIFICIAL INTELLIGENCE

Artificial intelligence and data analysis

- ▶ Knowledge representation and automated reasoning
- ▶ Semantic query answering over big heterogeneous data

Tabular data

Title	Genres	Duration	Director	Writer	Actors
La La Land	Musical	2h 8m	Damien Chazelle	Damien Chazelle	Ryan Gosling, Emma Stone, Rosemarie DeWitt

Images

Texts

While navigating their careers in Los Angeles, a pianist and an actress fall in love while attempting to reconcile their aspirations for the future.

Director: Damien Chazelle
Writer: Damien Chazelle

Audio

La La Land (Original Motion Picture Soundtrack)

Wikipedia

La La Land

From Wikipedia, the free encyclopedia

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Contents (hide)

- Plot
- Cast

Syndogram

lalandan

379 posts 186k followers 15 following

Audience reviews

After an astonishing Whiplash (2014), director Damien Chazelle is back with yet another awe-inspiring tale of music and passion in the form of La La Land which stars Ryan Gosling and Emma Stone in lead roles. As magical as the title suggests, the film takes viewers on ...

"I guess I see you in the mirror". Back in 2014, there was a film called "Whiplash" that blew everyone away, including me. It was my 2nd favorite movie of that year and I had my eye out for the director next project. Well? It was long and Damien Chazelle made film in ...

I loved the film La La Land. There is no doubt who it inspired me to see awards, not to forget it won so many awards at Oscar. At first I was getting bored about not not a lot of "Jazz" plus the whole film has less dialogue and more of dance and music, really the characters ...

$$Q(?x) \leftarrow \text{Musical} (?x) \wedge \text{WellKnownMovie} (?x)$$

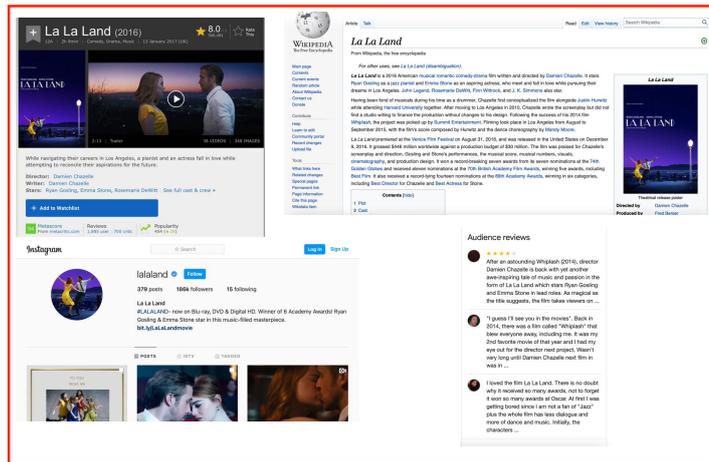
Artificial intelligence and data analysis

- ▶ Knowledge representation and automated reasoning
 - ▶ Data and knowledge enrichment using data analysis and reasoning

$hasAward(x, y) \wedge MajorAward(y) \Rightarrow WellKnownMovie(y)$



$WellKnownMovie(La La Land)$



Artificial intelligence and data analysis

- ▶ Machine learning
 - ▶ Understanding numerical, non-categorical data



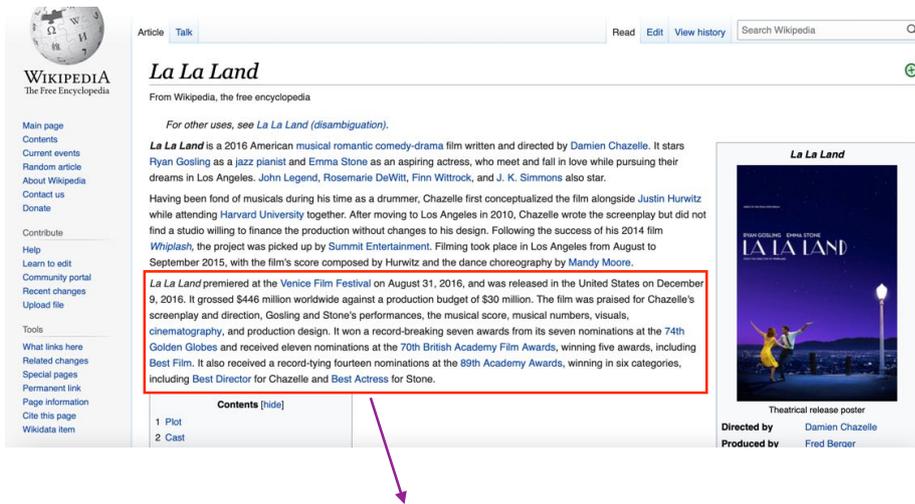
FeatureFilm(La La Land)

Terminology

Director, Comedy, FeatureFilm, ScriptWriter

Artificial intelligence and data analysis

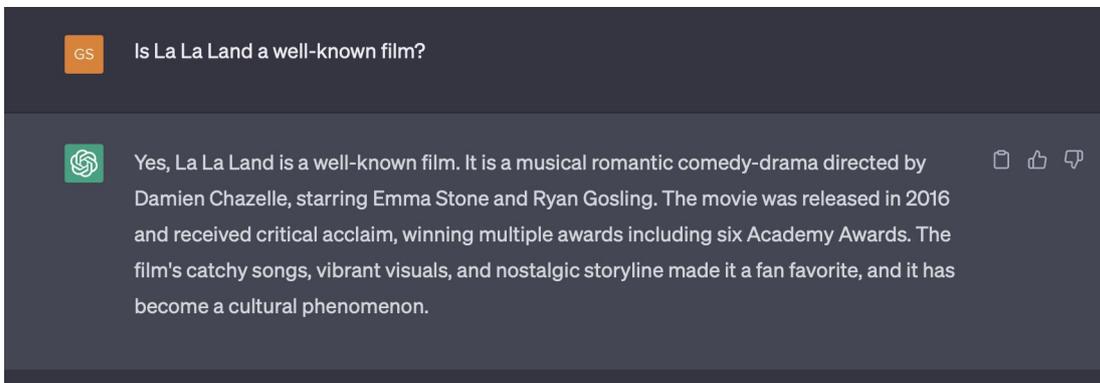
- ▶ Machine learning
 - ▶ Understanding unstructured and raw data



hasAward(La La Land,70th British Academy Film Awards Best Film)

Artificial intelligence and data analysis

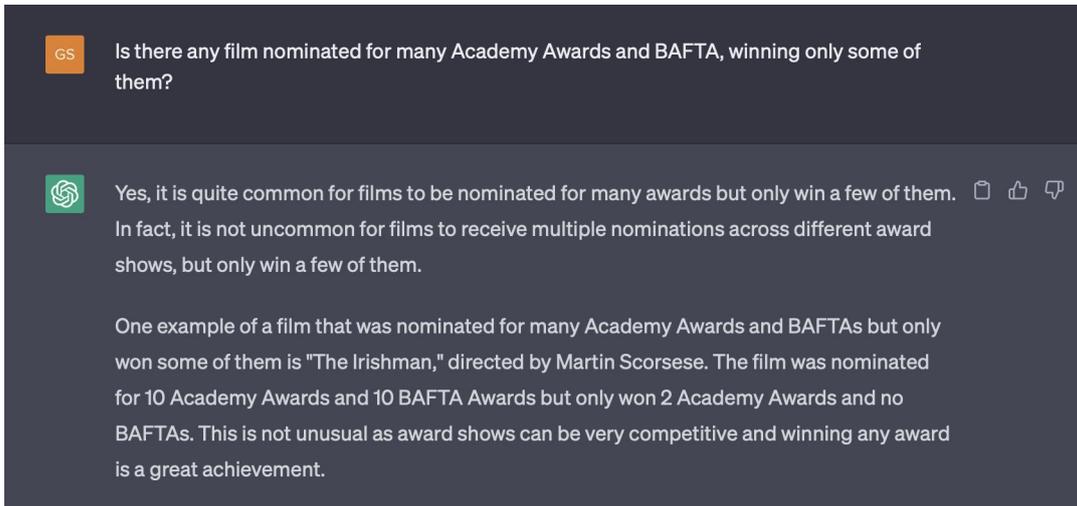
- ▶ Machine learning
 - ▶ Generative models, large language models - new forms of data access



WellKnownMovie(La La Land)

Artificial intelligence and data analysis

- ▶ Machine learning
 - ▶ Generative models, large language models - new forms of reasoning



GS Is there any film nominated for many Academy Awards and BAFTA, winning only some of them?

Yes, it is quite common for films to be nominated for many awards but only win a few of them. In fact, it is not uncommon for films to receive multiple nominations across different award shows, but only win a few of them.

One example of a film that was nominated for many Academy Awards and BAFTAs but only won some of them is "The Irishman," directed by Martin Scorsese. The film was nominated for 10 Academy Awards and 10 BAFTA Awards but only won 2 Academy Awards and no BAFTAs. This is not unusual as award shows can be very competitive and winning any award is a great achievement.

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Data semantics - The early days



May 17, 2001

The Semantic Web

A new form of Web content that is meaningful to computers will unleash a revolution of new possibilities

By Tim Berners-Lee, James Hendler and Ora Lassila

The entertainment system was belting out the Beatles' "We Can Work It Out" when the phone rang. When Pete answered, his phone turned the sound down by sending a message to all the other *local* devices that had a *volume control*. His sister, Lucy, was on the line from the doctor's office: "Mom needs to see a specialist and then has to have a series of physical therapy sessions. Biweekly or something. I'm going to have my agent set up the appointments." Pete immediately agreed to share the chauffeuring.

At the doctor's office, Lucy instructed her Semantic Web agent through her handheld Web browser. The agent promptly retrieved information about Mom's *prescribed treatment* from the doctor's agent, looked up several lists of *providers*, and checked for the ones *in-plan* for Mom's insurance within a *20-mile radius* of her home and with a *rating of excellent* or *very good* on trusted rating services. It then began trying to find a match between available *appointment times* (supplied by the agents of individual providers through their Web sites) and Pete's and Lucy's busy schedules. (The emphasized keywords indicate terms whose semantics, or meaning, were defined for the agent through the **Semantic Web**.)

...

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SEMANTIC WEB



On this page → [technology topics](#) · [news](#) · [upcoming events and talks](#)

In addition to the classic “Web of documents” W3C is helping to build a technology stack to support a “Web of data,” the sort of data you find in databases. The ultimate goal of the Web of data is to enable computers to do more useful work and to develop systems that can support trusted interactions over the network. The term “Semantic Web” refers to W3C’s vision of the Web of linked data. Semantic Web technologies enable people to create data stores on the Web, build vocabularies, and write rules for handling data. Linked data are empowered by technologies such as RDF, SPARQL, OWL, and SKOS.

Linked Data

The Semantic Web is a Web of data — of dates and titles and part numbers and chemical properties and any other data one might conceive of. RDF provides the foundation for publishing and linking your data. Various technologies allow you to embed data in documents (RDFa, GRDDL) or expose what you have in SQL databases, or make it available as RDF files.

Inference

Near the top of the Semantic Web stack one finds inference — reasoning over data through rules. W3C work on rules, primarily through RIF and OWL, is focused on translating between rule languages and exchanging rules among different systems.

Vocabularies

At times it may be important or valuable to organize data. Using OWL (to build vocabularies, or “ontologies”) and SKOS (for designing knowledge organization systems) it is possible to enrich data with additional meaning, which allows more people (and more machines) to do more with the data.

Vertical Applications

W3C is working with different industries — for example in Health Care and Life Sciences, eGovernment, and Energy — to improve collaboration, research and development, and innovation adoption through Semantic Web technology. For instance, by aiding decision-making in clinical research, Semantic Web technologies will bridge many forms of biological and medical information across institutions.

Query

Query languages go hand-in-hand with databases. If the Semantic Web is viewed as a global database, then it is easy to understand why one would need a query language for that data. SPARQL is the query language for the Semantic Web.

~a decade later

The Keyword

Introducing the Knowledge Graph: things, not strings

May 16, 2012 · 4 min read

Amit Singhal
SVP, Engineering

- ▶ Find the right thing
- ▶ Get the best summary
- ▶ Go deeper and broader

Search is a lot about discovery—the basic human need to learn and broaden your horizons. But searching still requires a lot of hard work by you, the user. So today I’m really excited to launch the Knowledge Graph, which will help you discover new information quickly and easily.

Take a query like [taj mahal]. For more than four decades, search has essentially been about matching keywords to queries. To a search engine the words [taj mahal] have been just that—two words.

But we all know that [taj mahal] has a much richer meaning. You might think of one of the world’s most beautiful monuments, or a Grammy Award-winning musician, or possibly even a casino in Atlantic City, NJ. Or, depending on when you last ate, the nearest Indian restaurant. It’s why we’ve been working on an intelligent model—in geek-speak, a “graph”—that understands real-world entities and their relationships to one another: things, not strings.

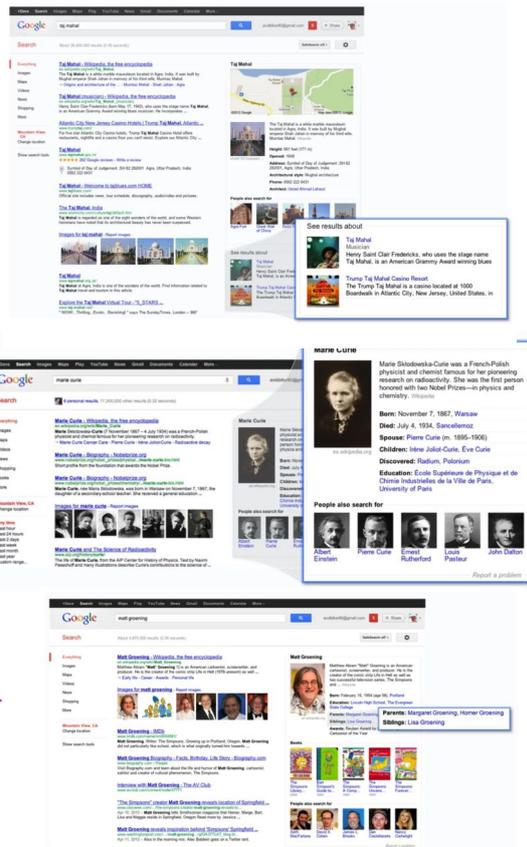
The Knowledge Graph enables you to search for things, people or places that Google knows about—landmarks, celebrities, cities, sports teams, buildings, geographical features, movies, celestial objects, works of art and more—and instantly get information that’s relevant to your query. This is a critical first step towards building the next generation of search, which taps into the collective intelligence of the web and understands the world a bit more like people do.

RELEVANT DATA, KNOWLEDGE AND ARTIFICIAL INTELLIGENCE

~a decade later

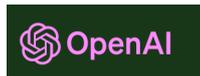
Google The Keyword

- ▶ Find the right thing
- ▶ Get the best summary
- ▶ Go deeper and broader



RELEVANT DATA, KNOWLEDGE AND ARTIFICIAL INTELLIGENCE

Nowadays



Introducing ChatGPT

We've trained a model called ChatGPT which interacts in a conversational way. The dialogue format makes it possible for ChatGPT to answer followup questions, admit its mistakes, challenge incorrect premises, and reject inappropriate requests.

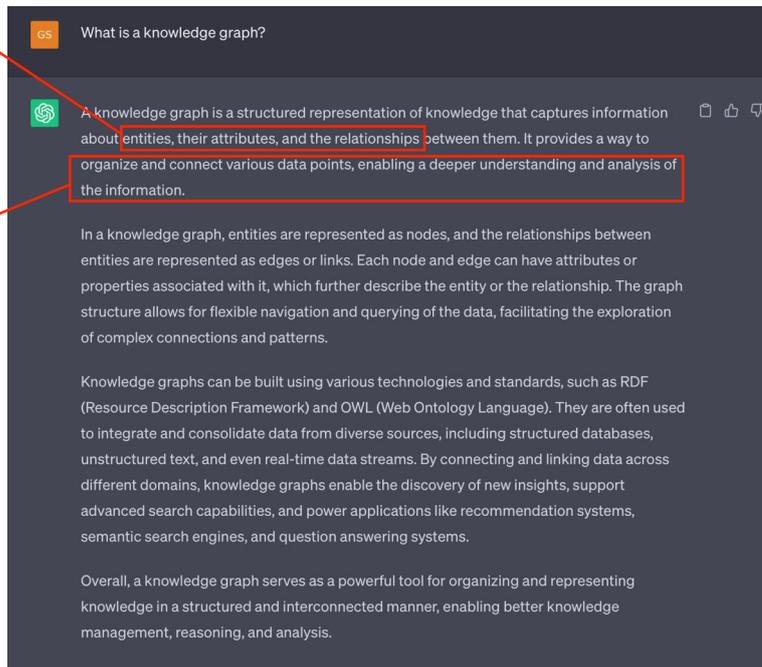
Entities
Attributes
Relationships

Organize data

Connect data

Understand data

Analyse data



Entities - Things and names

La La Land is a 2016 American romantic musical film written and directed by Damien Chazelle. The film stars Ryan Gosling and Emma Stone as a struggling jazz pianist and an aspiring actress, respectively, who meet and fall in love while pursuing their dreams in Los Angeles. John Legend, Rosemarie DeWitt, Finn Wittrock, and J. K. Simmons appear in supporting roles.

Having been fond of musicals during his time as a drummer, Chazelle first conceptualized the film alongside Justin Hurwitz while attending Harvard University together. After moving to Los Angeles in 2010, Chazelle penned the script but did not find a studio willing to finance the production without changes to his design. After the success of his film Whiplash (2014), the project was picked up by Summit Entertainment. Miles Teller and Emma Watson were originally slated to star, but after both dropped out, Gosling and Stone were cast. Filming took place in Los Angeles between August and September 2015, with the film's score composed by Hurwitz and the dance choreography by Mandy Moore.



Entities - Things and names



Uniform Resource Identifier (URI)

- ▶ A Uniform Resource Identifier (URI) is a unique sequence of characters that identifies a logical or physical resource used by web technologies
- ▶ URIs may be used to identify anything, including real-world objects, such as people and places, concepts, or information resources such as web pages and books



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<tel:+30-210-772-1000>

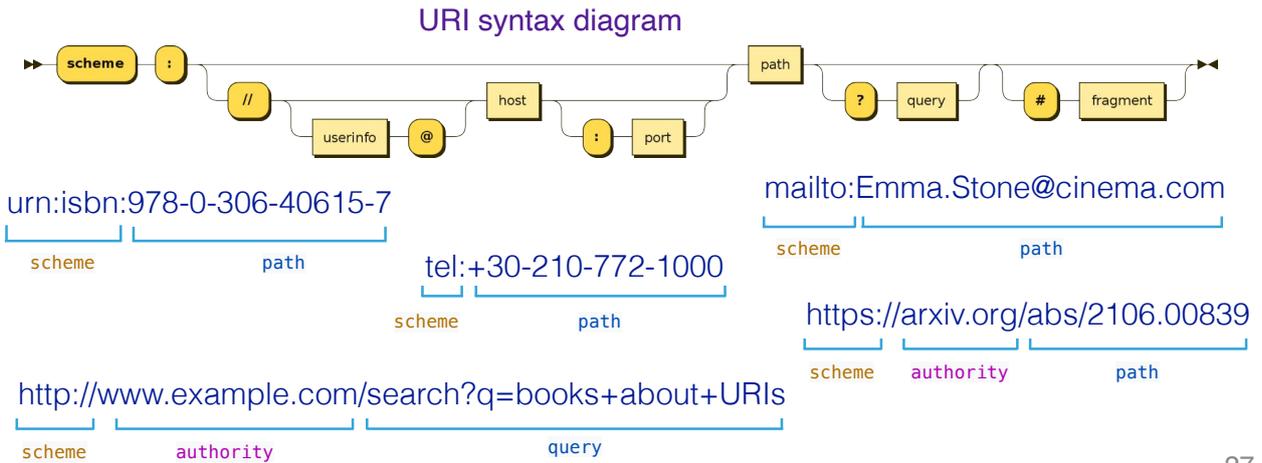
<urn:isbn:978-960-603-157-1>

<telnet://192.101.1.1/>

Entities - Things and names

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Entities - Things and names



Llanfairpwllgwyngyllgogerychwyrndrobwllllantysiliogogoch



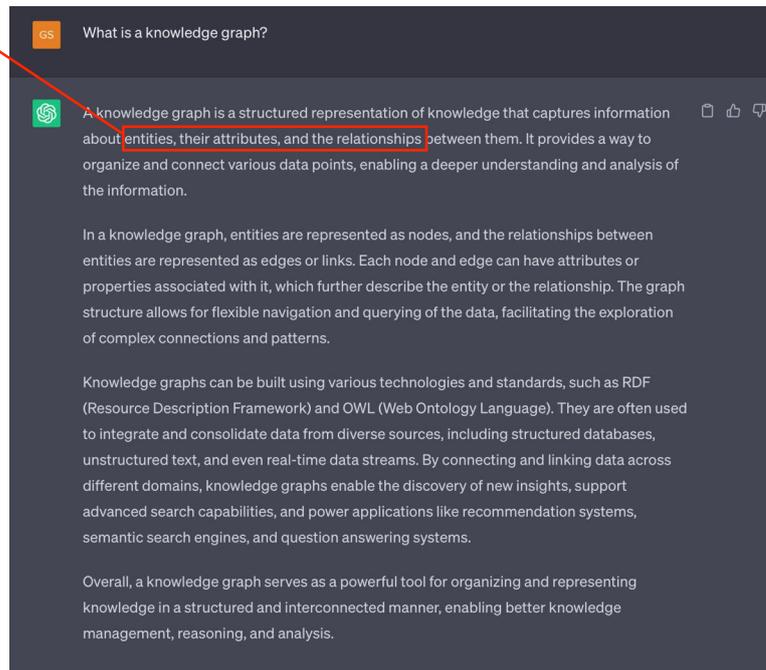
Everything in this world has a hidden meaning (Nikos Kazantzakis)



LLANFAIRPWLLGWYNGYLLGOGERYCHWYRNDROBWL LLLANTYSILIOGOGOGCH
 ST MARYS CHURCH IN THE HOLLOW OF THE WHITE HAZEL NEAR TO THE RAPID WHIRLPOOL OF LLANTYSILIO OF THE RED CAVE

KNOWLEDGE GRAPHS - THE INGREDIENTS

Entities
Attributes
Relationships



29

KNOWLEDGE GRAPHS - THE INGREDIENTS

Attributes - Categories, classes, types

La La Land is a 2016 American **romantic musical film** written and directed by **Damien Chazelle**. The film stars **Ryan Gosling** and **Emma Stone** as a struggling jazz pianist and an aspiring actress, respectively, who meet and fall in love while pursuing their dreams in Los Angeles. **John Legend**, **Rosemarie DeWitt**, **Finn Wittrock**, and **J. K. Simmons** appear in supporting roles.

Having been fond of musicals during his time as a drummer, Chazelle first conceptualized the film alongside **Justin Hurwitz** while attending **Harvard University** together. After moving to Los Angeles in 2010, Chazelle penned the script but did not find a studio willing to finance the production without changes to his design. After the success of his film **Whiplash** (2014), the project was picked up by **Summit Entertainment**. **Miles Teller** and **Emma Watson** were originally slated to star, but after both dropped out, Gosling and Stone were cast. Filming took place in Los Angeles between August and September 2015, with **the film's score** composed by Hurwitz and the dance choreography by **Mandy Moore**.

romantic musical film jazz pianist aspiring actress film
studio script project city

https://en.wikipedia.org/wiki/romantic_musical_film

30

Attributes - Categories, classes, types

IMDb movie genres

Action | Adult | Adventure | Animation | Biography | Comedy | Crime | Documentary | Drama | Family | Fantasy | Film Noir | Game Show | History | Horror | Musical | Music | Mystery | News | Reality-TV | Romance | Sci-Fi | Short | Sport | Talk-Show | Thriller | War | Western

Comedy film	Defined by events that are primarily intended to make the audience laugh	<ul style="list-style-type: none"> Action comedy film Buddy comedy Dark/black comedy film Mockumentary Parody film (including spoof film) Romantic comedy Screwball comedy Slapstick film 	<ul style="list-style-type: none"> <i>Duck Soup</i> (1933) <i>Modern Times</i> (1936) <i>Some Like It Hot</i> (1959) <i>Airplane!</i> (1980) <i>Three Amigos</i> (1986) <i>Four Weddings and a Funeral</i> (1994) <i>The Hangover</i> (2009)
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RomanticComedy \sqsubseteq Comedy

Terminologies, hierarchies, taxonomies, ontologies

Entities
Attributes
Relationships

gs What is a knowledge graph?

A knowledge graph is a structured representation of knowledge that captures information about entities, their attributes, and the relationships between them. It provides a way to organize and connect various data points, enabling a deeper understanding and analysis of the information.

In a knowledge graph, entities are represented as nodes, and the relationships between entities are represented as edges or links. Each node and edge can have attributes or properties associated with it, which further describe the entity or the relationship. The graph structure allows for flexible navigation and querying of the data, facilitating the exploration of complex connections and patterns.

Knowledge graphs can be built using various technologies and standards, such as RDF (Resource Description Framework) and OWL (Web Ontology Language). They are often used to integrate and consolidate data from diverse sources, including structured databases, unstructured text, and even real-time data streams. By connecting and linking data across different domains, knowledge graphs enable the discovery of new insights, support advanced search capabilities, and power applications like recommendation systems, semantic search engines, and question answering systems.

Overall, a knowledge graph serves as a powerful tool for organizing and representing knowledge in a structured and interconnected manner, enabling better knowledge management, reasoning, and analysis.

Relationships - things classifications, things interconnections

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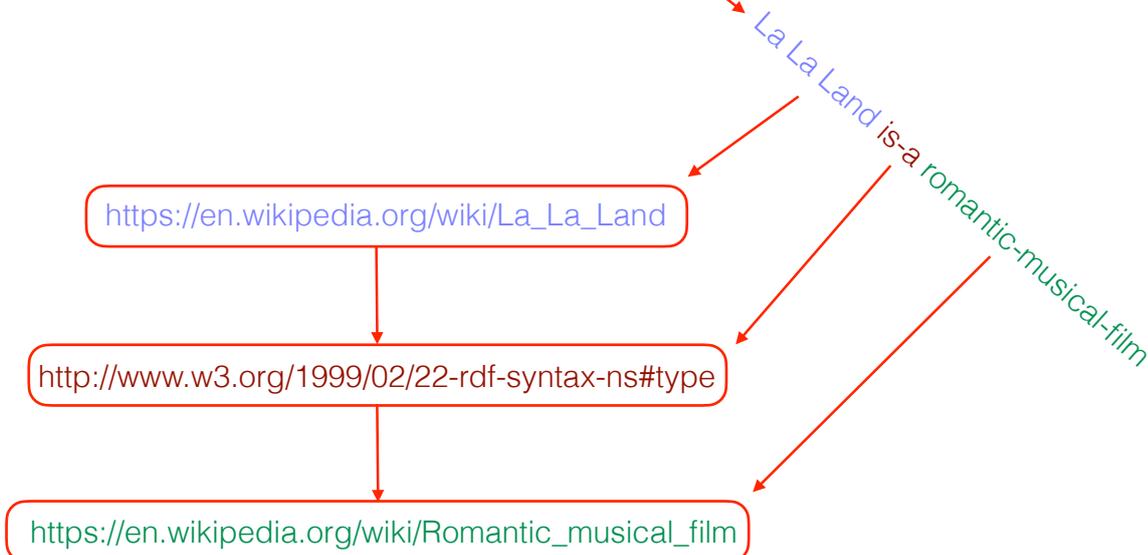
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is-a has-directed has-written starring
 fall-in-love finance picked took-place

<http://www.w3.org/1999/02/22-rdf-syntax-ns#type>

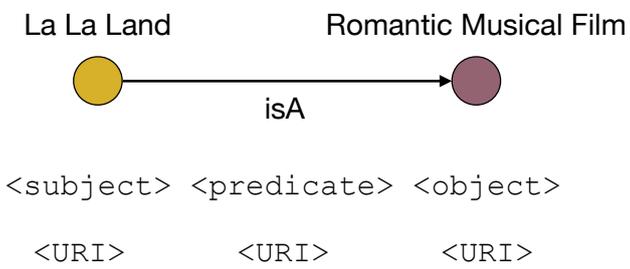
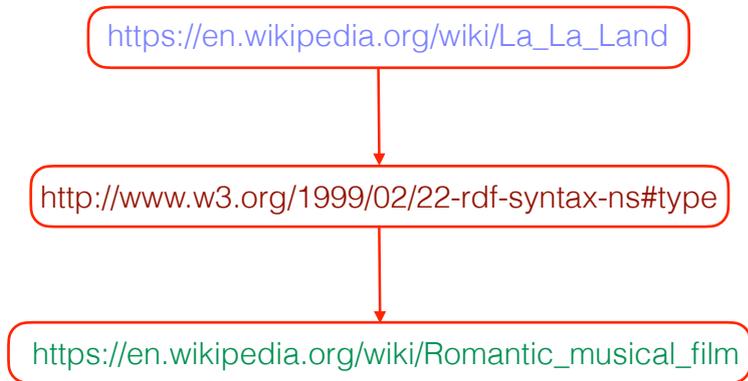
Putting things together - Triples

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Putting things together - Triples



Resource Description Framework (RDF)

RDF is a **standard model** for data interchange on the Web.

RDF has features that facilitate **data merging** even if the underlying schemas differ.

RDF extends the linking structure of the Web to use URIs to **name the relationship between things** as well as the two ends of the link (this is usually referred to as a "triple").

Using this simple model, it allows structured and semi-structured data to be **mixed, exposed, and shared** across different applications.

This linking structure forms a **directed, labeled graph**, where the edges represent the named link between two resources, represented by the graph nodes.

This **graph view** is the easiest possible mental model for RDF and is often used in easy-to-understand visual explanations.



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Human understandable

[La La Land](#) is a **romantic musical film** directed by **Damien Chazelle**.



Romantic musical (alternatively **musical romance**) is a genre of film which features romantic relationships and whose story is partially explained through song and/or dance numbers. This genre originated on Broadway and moved to the silver screen thanks in part to the popularity of the Rodgers and Hammerstein productions.

Some examples include *South Pacific*, *West Side Story* and its 2021 remake, *Grease*, *High School Musical*, *Across the Universe*, *Moulin Rouge!*, the *Mamma Mia!* franchise, *Sunshine on Leith*, and *La La Land*.

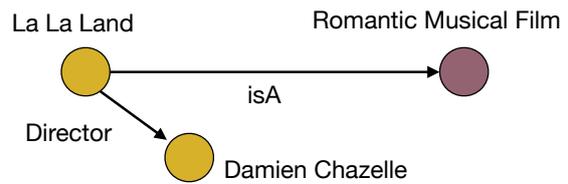


Film director

"Director (film)" redirects here. For films with this title, see *Director*.^[i] Other uses. Not to be confused with *camera operator*.

A **film director** is a person who controls a film's artistic and dramatic aspects and visualizes the screenplay (or script) while guiding the film crew and actors in the fulfillment of that vision. The director has a key role in choosing the cast members, production design and all the creative aspects of filmmaking.^[1] The film director gives direction to the cast and crew and creates an overall vision through which a film eventually becomes realized or not. Directors need to be able to mediate differences in creative visions and stay within the budget.

Machine understandable



<La La Land> <isA> <Romantic Musical Film>
<La La Land> <director> <Damien Chazelle>

http://dbpedia.org/resource/La_La_Land	http://www.w3.org/1999/02/22-rdf-syntax-ns#ty	http://dbpedia.org/ontology/Film
http://dbpedia.org/resource/La_La_Land	http://www.w3.org/1999/02/22-rdf-syntax-ns#ty	http://www.w3.org/2002/07/owl#Thing
http://dbpedia.org/resource/La_La_Land	http://www.w3.org/1999/02/22-rdf-syntax-ns#ty	http://schema.org/CreativeWork
http://dbpedia.org/resource/La_La_Land	http://www.w3.org/1999/02/22-rdf-syntax-ns#ty	http://schema.org/Movie



WIKIPEDIA
The Free Encyclopedia

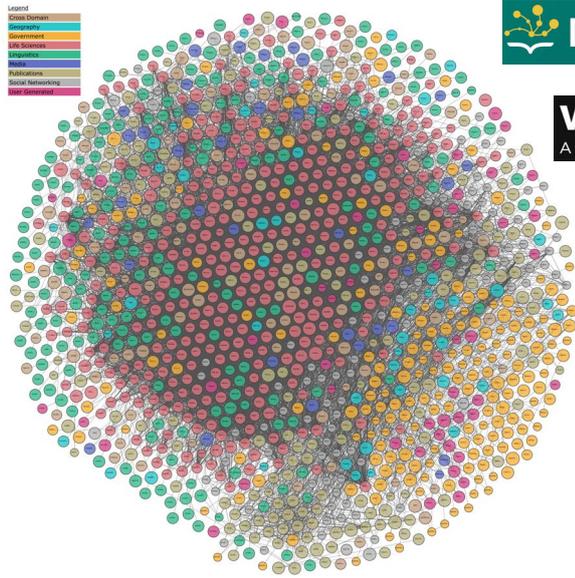


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Terminological knowledge



http://dbpedia.org/resource/La_La_Land	http://www.w3.org/1999/02/22-rdf-syntax-ns#type	http://dbpedia.org/ontology/Film
http://dbpedia.org/resource/La_La_Land	http://www.w3.org/1999/02/22-rdf-syntax-ns#type	http://www.w3.org/2002/07/owl#Thing
http://dbpedia.org/resource/La_La_Land	http://www.w3.org/1999/02/22-rdf-syntax-ns#type	http://schema.org/CreativeWork
http://dbpedia.org/resource/La_La_Land	http://www.w3.org/1999/02/22-rdf-syntax-ns#type	http://schema.org/Movie



About: [La La Land](#)

An Entity of Type: *movie*, from Named Graph: <http://dbpedia.org>, within Data Space: [dbpedia.org](#)

La La Land is a 2016 American romantic musical comedy-drama film written and directed by Damien Chazelle. It stars Ryan Gosling and Emma Stone as a struggling jazz pianist and an aspiring actress, respectively, who meet and fall in love while pursuing their dreams in Los Angeles. John Legend, Rosemarie DeWitt, Finn Wittrock, and J. K. Simmons appear in supporting roles.

Property	Value
dbp:Work/runtime	• 128.0
dbp:abstract	• La La Land is a 2016 American romantic musical comedy-drama film written and directed by Damien Chazelle. It stars Ryan Gosling and Emma Stone as a struggling jazz pianist and an aspiring actress, respectively, who meet and fall in love while pursuing their dreams in Los Angeles. John Legend, Rosemarie DeWitt, Finn Wittrock, and J. K. Simmons appear in supporting roles. Having been fond of musicals during his time as a drummer, Chazelle first conceptualized the film alongside Justin Hurwitz while attending Harvard University together. After moving to Los Angeles in 2010, Chazelle penned the script but did not find a studio willing to finance the production without changes to his design. After the success of his film Whiplash (2014), the project was picked up by Summit Entertainment. Miles Teller and Emma Watson were originally slated to star, but after both dropped out Gosling and Stone were cast. Filming took place in Los Angeles between August and September 2015, with the film's score composed by Hurwitz and the dance choreography by Mandy Moore. La La Land premiered at the 73rd Venice International Film Festival on August 31, 2016, and was theatrically released in the United States on December 9, 2016. The film was a commercial success, grossing \$444 million worldwide on a production budget of \$30 million, and received widespread critical acclaim with particular praise given to Chazelle's screenplay and direction, the performances of Gosling and Stone, score, musical numbers, cinematography, and production design. It went on to receive numerous accolades. It won a record-breaking seven awards from its seven nominations at the 74th Golden Globes and received eleven nominations at the 70th British Academy Film Awards, winning five, including Best Film. The film also received a record-tying fourteen nominations at the 89th Academy Awards, winning in six categories, including Best Actress for Stone and Best Director for Chazelle. In the latter category, Chazelle became the youngest winner at age 32. (en)
dbp:budget	• 3.0E7
dbp:cinematography	• dbp:Linus_Sandgren
dbp:director	• dbp:Damien_Chazelle

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Modern knowledge and data engineering

Create and share your dataset in **RDF**

Create and share your terminology in **OWL**



gs La La Land is a romantic musical film directed by Damien Chazelle. Can you write this in RDF?

Sure! Here's an RDF representation of the information you provided about the film "La La Land":

```

turtle
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
@prefix foaf: <http://xmlns.com/foaf/0.1/> .
@prefix dbpedia: <http://dbpedia.org/resource/> .
@prefix dbpedia-owl: <http://dbpedia.org/ontology/> .

dbpedia:La_La_Land rdf:type dbpedia-owl:Film ;
dbpedia-owl:director dbpedia:Damien_Chazelle ;
dbpedia-owl:genre dbpedia:Romantic_musical_film .

dbpedia:Damien_Chazelle rdf:type foaf:Person ;
foaf:name "Damien Chazelle" .

dbpedia:Romantic_musical_film rdf:type dbpedia-owl:FilmGenre ;
rdfs:label "Romantic musical film" .
    
```

In this RDF representation, the film "La La Land" is defined as an instance of the `dbpedia-owl:Film` class. It has a director, which is Damien Chazelle, who is defined as an instance of the `foaf:Person` class. The genre of the film is specified as a "Romantic musical film," which is an instance of the `dbpedia-owl:FilmGenre` class.