What if we didn't always get what we wanted?

What are Seattle hosts like?

Whimsical Studio in Prime Location

Seattle, WA, United States ★★★★★ 88

Elena & AJ

Entire home/apt

2 Guests

Studio

1 Bed

View Photos

Your Host

Elena & AJ

Seattle, Washington, United States · Joined in May 2011

I'm a local Leasing Agent in Seattle & run a leasing company in town with my partner AJ. We love to travel and host folks from all around the nation & world. I discovered the AirBnB community a few years ago and fell in love! We have hosted & met so many amazing people through this community - I'm always excited for our next guest or trip!

I grew up in Novosibirsk, Russia & Vancouver, BC. I used to do competitive Ballroom all through my childhood and teen years. I still love to dance but lately I have taken up capoeira & acro yoga.

+ More

Response rate: **100%**
Response time: **within an hour**

678 Reviews ✅ Verified

Contact host

View Photos

Spa retreat in vibrant Greenwood

Seattle, WA, United States ★★★★★ 111

Jeffrey

🏠 Entire home/apt

👥 6 Guests

🚪 1 Bedroom

🛏 4 Beds

Your Host

Jeffrey

Seattle, Washington, United States · Joined in July 2014

My wife Ellen and I moved to Seattle from Minneapolis in 1989--so we pretty much say we are from Seattle at this point. I am a residential architect and builder. We bought a tiny house in the early nineties and we have been developing into our dream home in the city.

We love to road trip in our vintage vw bus, ride horses, sail, and spend as much time as possible outdoors.

Response rate: **100%**
Response time: **within an hour**

115 Reviews   ✅ Verified

Contact host

Sounds like topic modeling.

Non-negative Matrix Factorization

$$V = W \times H$$

Non-negative Matrix Factorization

$$V = W \times H$$

$$V = W \times H$$

Word-document
matrix

$$V = W \times H$$
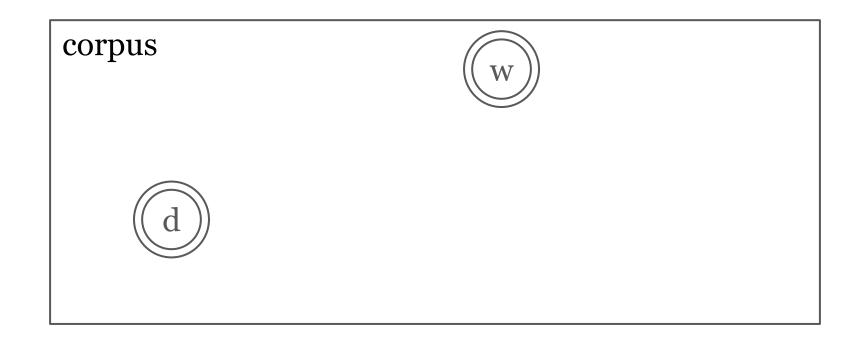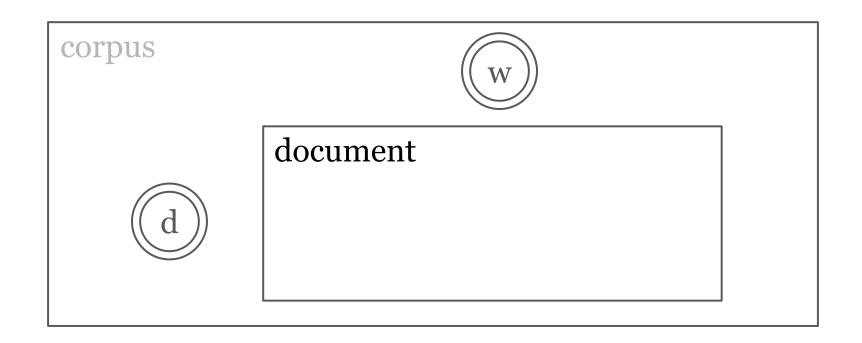
Word-document
matrix

Word-feature
matrix

$$V = W \times H$$

Word-document
matrix

Word-feature
matrix

Feature-document
matrix

$$\text{Word-document matrix} \cong \text{Word-feature matrix} \times \text{Feature-document matrix}$$

Word-document matrix   Word-feature matrix   Feature-document matrix

Latent Dirichlet Allocation

corpus

Latent Dirichlet Allocation

corpus

w

d

Latent Dirichlet Allocation

Latent Dirichlet Allocation

w

document

d → d

Latent Dirichlet Allocation

Latent Dirichlet Allocation

Latent Dirichlet Allocation

Latent Dirichlet Allocation
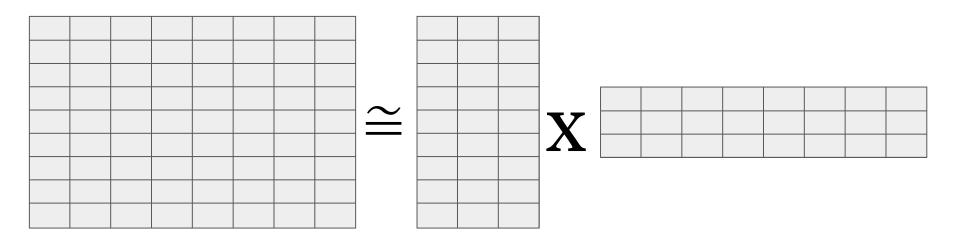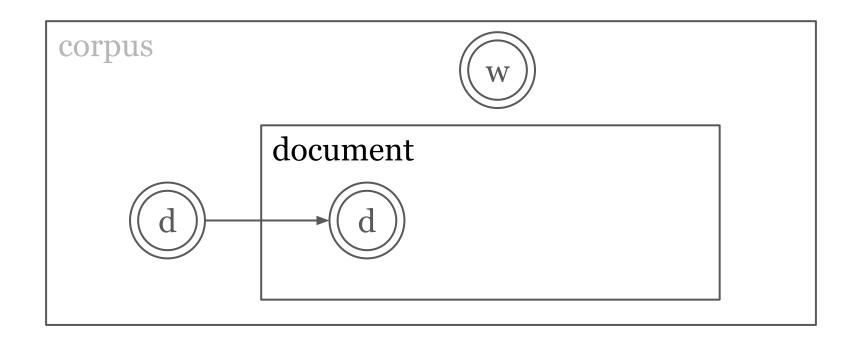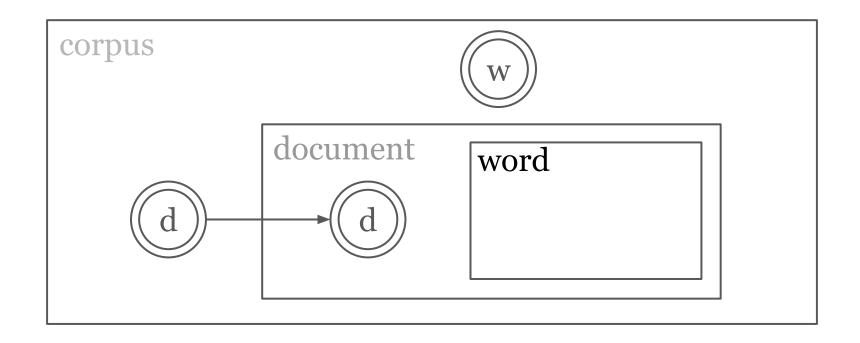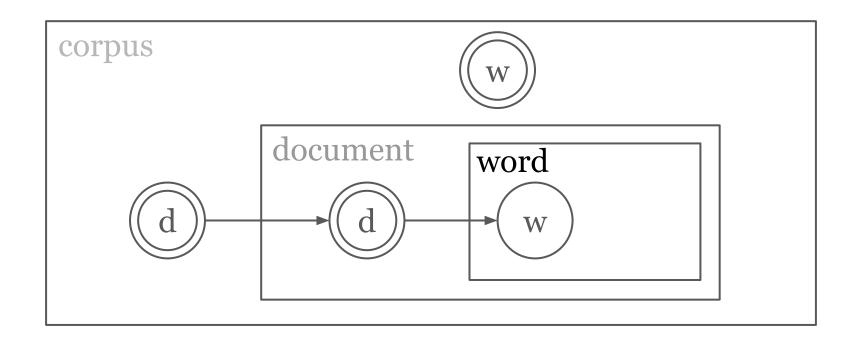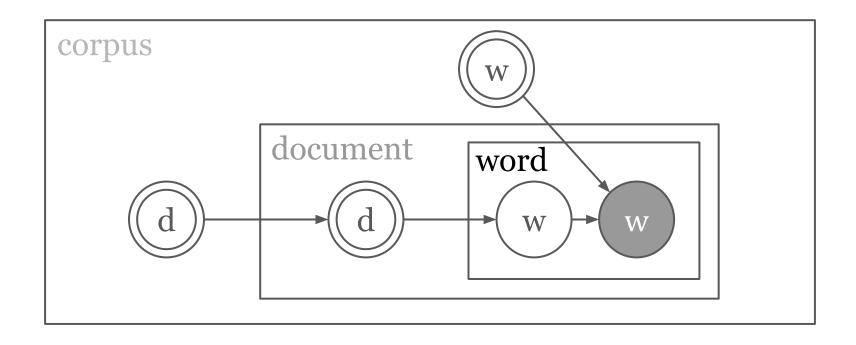
Deterministic	Stochastic
NMF	LDA

What is

NMF

What might be

LDA

The specifics.

2,000 documents, lemmatized

2,000 documents, lemmatized
Unigrams

2,000 documents, lemmatized
Unigrams
Bigrams

2,000 documents, lemmatized
Unigrams
Bigrams
At least 3 documents

2,000 documents, lemmatized

Unigrams

Bigrams

+   At least 3 documents

_____

$$
\begin{array}{r}
\text{2,000 documents, lemmatized} \\
\text{Unigrams} \\
\text{Bigrams} \\
+ \qquad \text{At least 3 documents} \\
\hline
\text{4,300 unique tokens}
\end{array}
$$

12 topics*

12 topics*

Some assembly required

food
music
art
dance
wine
yoga

NMF

LDA

artsy

NMF

LDA

yoga

artist

practice

cup

respectful

earth

mother

NMF   LDA

hippies

NMF

LDA

anywhere

found

locate

bar

restaurant

bustle
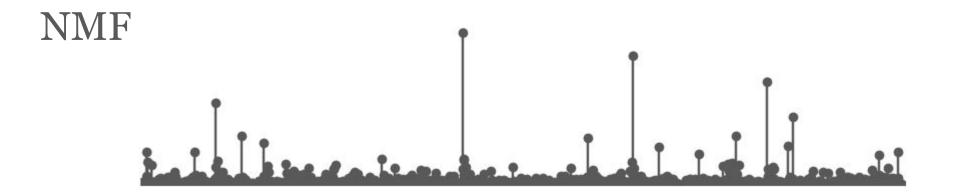
NMF   LDA

NMF

LDA

?

Outdoorsy

NMF

Outdoorsy

LDA

hike
outdoors
ski
bike
sport
camp
run

NMF

hike
bike
art
play
music
ski
camp

LDA

hike

outdoors

ski

bike

sport

camp

run

NMF

hike

bike

art

play

music

ski

camp

LDA

NMF

LDA

NMF

hike

LDA

hike

NMF

outdoors

LDA

art

Professional

NMF

Professional

LDA

young professional	young professional
business	northwest
meeting	business
company	trail
working	beauty
technology	Puget Sound
NMF	LDA
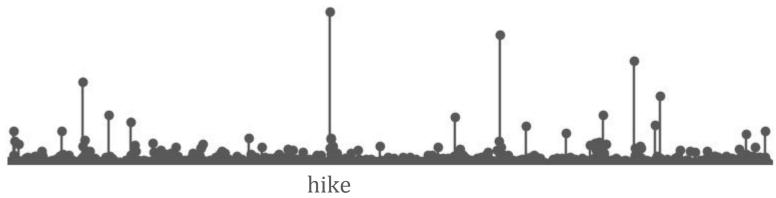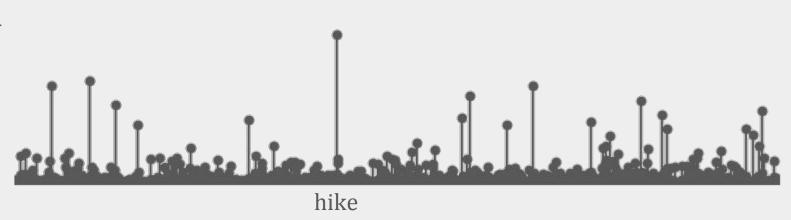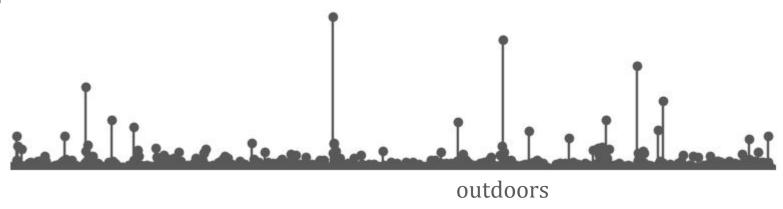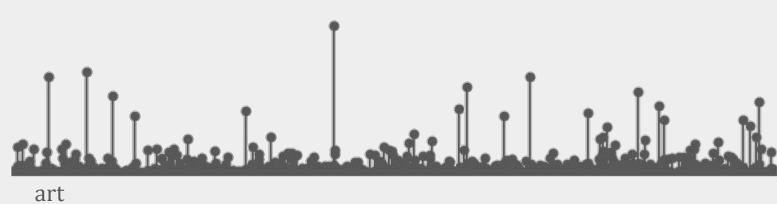
young professional
business
meeting
company
working
technology

NMF
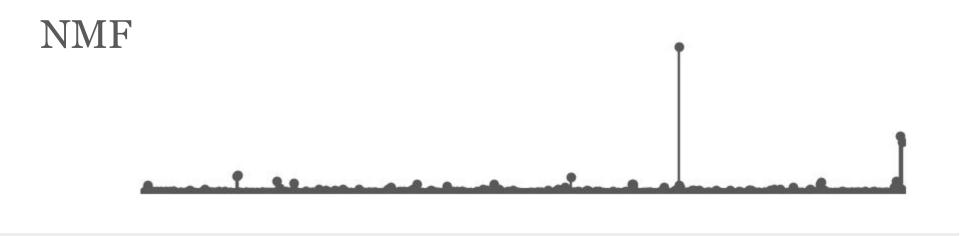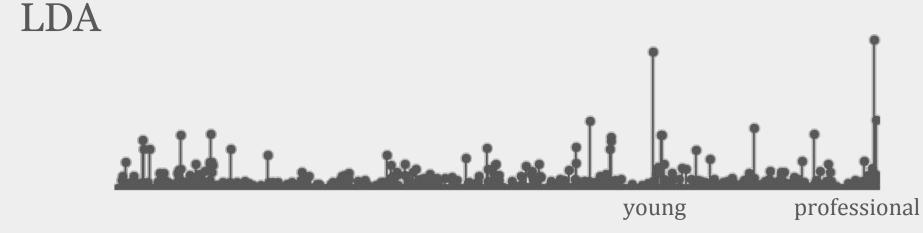
young professional
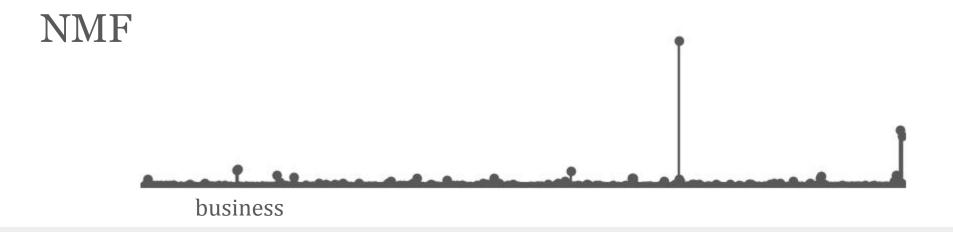**northwest**
business
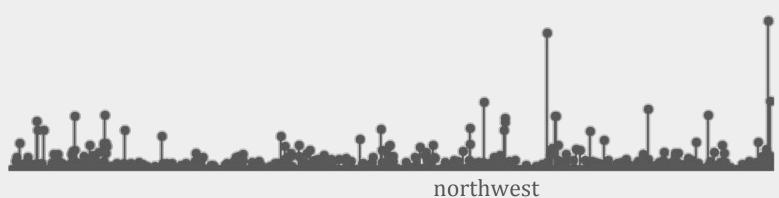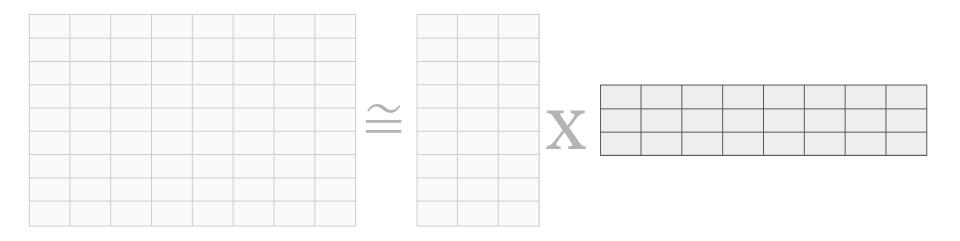**trail**
beauty
Puget Sound
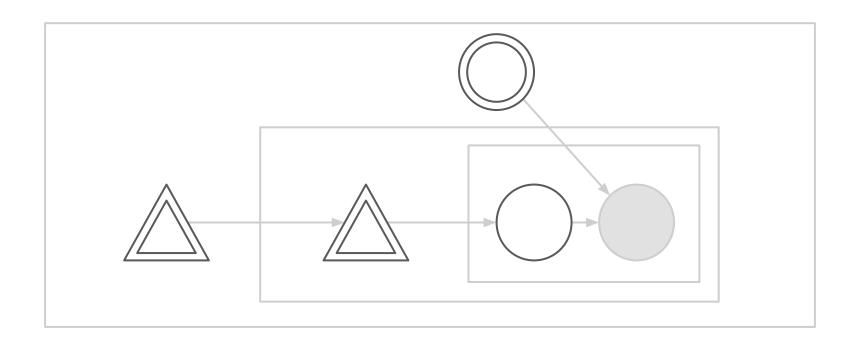
LDA

NMF

LDA

NMF

business

LDA

northwest

Let's find a host.

Word-document matrix $\cong$ Word-feature matrix X Feature-document matrix
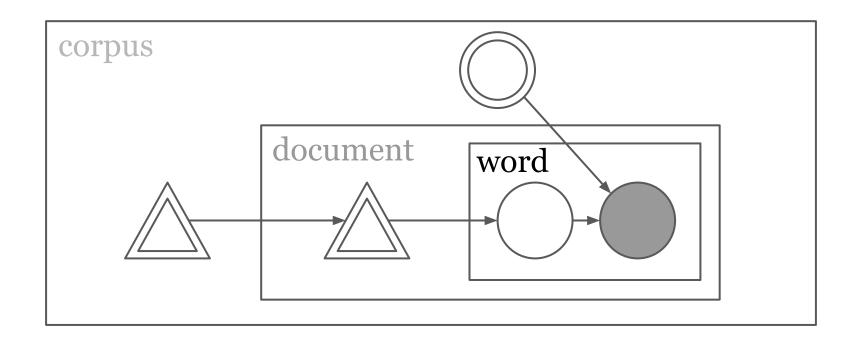
Latent Dirichlet Allocation

Latent **Dirichlet** Allocation

corpus

document

word

Latent Dirichlet Allocation

NMF

apartment
beer
veterinarian
Puerto Rico
St John
alive

LDA

NMF

Apartment dwelling vets who like beer and tropical vacations

LDA

Capitol Hill

NMF

Capitol Hill

LDA

Capitol Hill	art
neighborhood	food
apartment	friend
favorite	read
area	Capitol Hill

| NMF | LDA |

NMF

topic capitol hill

LDA

topic capitol hill