



NLP

Can Topic Modeling Help Recruiters?

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Topic Modeling

- ▀ Latent Dirichlet Allocation (LDA)
 - ▀ KMean Cluster
- ▀ Non-Negative Matrix Factorization (NMF)
 - ▀ T-SNE

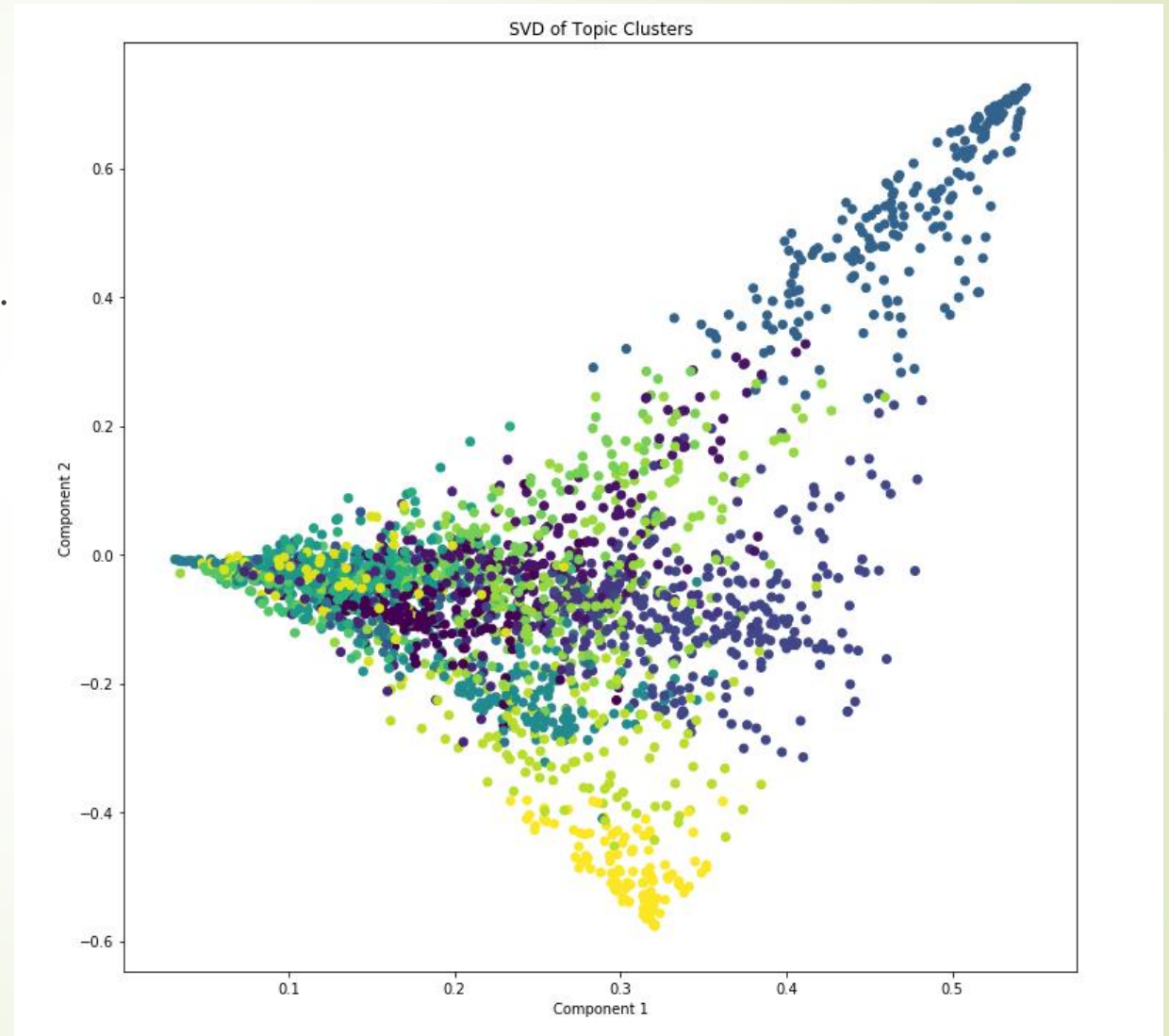
LDA and Visual

Ida visual

	0	1	2	3	4	5	6	7	8	9
Topic0	leadership	budget	result	increase	performance	strategy	planning	analysis	implementation	cost
Topic1	aviation	security	aircraft	officer	personnel	maintenance	flight	course	air	army
Topic2	fitness	coach	health	exercise	group	trainer	sport	class	certify	wellness
Topic3	record	file	phone	issue	document	order	answer	resolve	telephone	problem
Topic4	student	school	teacher	child	classroom	art	activity	parent	teach	learn
Topic5	quality	test	testing	analysis	production	improvement	datum	requirement	control	assurance
Topic6	network	server	technology	software	security	hardware	window	computer	user	troubleshoot
Topic7	design	event	marketing	relation	medium	production	press	material	write	director
Topic8	construction	safety	site	material	schedule	contractor	design	building	budget	contract
Topic9	employee	resource	policy	hire	benefit	conduct	interview	recruitment	payroll	personnel
Topic10	art	design	designer	color	hotel	artist	space	theater	award	school
Topic11	design	application	datum	software	database	user	web	solution	oracle	requirement
Topic12	engineering	design	engineer	equipment	control	manufacturing	plant	drawing	installation	maintenance
Topic13	account	accounting	prepare	tax	bank	statement	finance	analysis	reconciliation	cash
Topic14	food	store	chef	kitchen	cash	item	menu	merchandise	inventory	guest
Topic15	care	patient	health	nursing	hospital	physician	treatment	family	nurse	healthcare
Topic16	inventory	order	material	supply	equipment	purchase	delivery	shipping	warehouse	receive
Topic17	equipment	repair	test	research	maintenance	analysis	science	troubleshoot	tool	engineering
Topic18	marketing	market	account	relationship	sell	increase	goal	exist	estate	base
Topic19	marketing	medium	campaign	strategy	brand	content	market	advertising	event	account

KMean and SVD

- KMean:
 - Use LDA model output.
 - Predict cluster label.
- SVD:
 - TruncatedSVD
 - Visualize



NMF and T-SNE

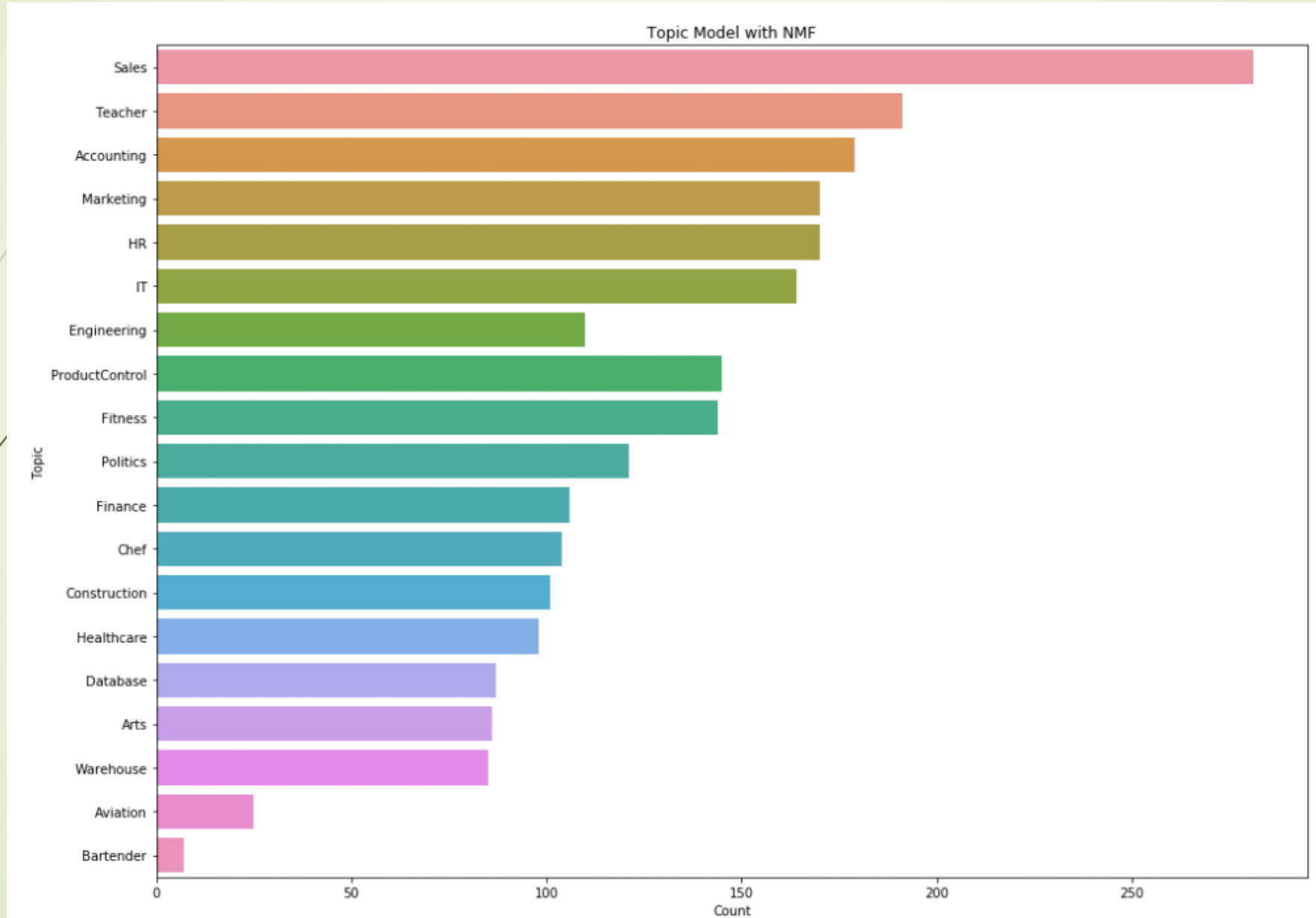
➔ At a glance:

	0	1	2	3	4	5	6	7	8	9	Topics
Topic0	equipment	maintenance	repair	safety	perform	personnel	aviation	aircraft	material	control	Warehouse
Topic1	food	kitchen	chef	menu	cost	preparation	item	restaurant	quality	cook	Chef
Topic2	accounting	account	prepare	tax	reconciliation	statement	payroll	cash	bank	accountant	Accounting
Topic3	marketing	market	strategy	brand	campaign	advertising	increase	content	budget	website	Marketing
Topic4	student	teacher	school	art	classroom	lesson	parent	child	grade	teach	Teacher
Topic5	quality	production	engineering	control	inventory	cost	manufacturing	improvement	engineer	material	Engineering
Topic6	construction	site	schedule	building	budget	safety	contractor	material	completion	build	Construction
Topic7	employee	resource	benefit	policy	hire	payroll	conduct	interview	recruitment	performance	HR
Topic8	design	designer	art	engineering	concept	engineer	material	software	drawing	production	Engineering
Topic9	analysis	finance	budget	analyze	datum	reporting	forecast	risk	planning	cost	Finance
Topic10	network	server	software	security	technology	hardware	window	computer	user	troubleshoot	Healthcare
Topic11	store	cash	merchandise	inventory	order	associate	receive	make	help	area	Sales
Topic12	datum	application	database	oracle	user	server	web	solution	sql	requirement	Database
Topic13	bar	guest	beverage	serve	food	drink	prepare	area	table	order	Bartender
Topic14	account	relationship	credit	review	issue	payment	loan	resolve	insurance	research	ProductControl
Topic15	medium	relation	event	press	write	content	campaign	release	strategy	community	Politics
Topic16	patient	care	health	nursing	nurse	record	treatment	family	procedure	home	Fitness
Topic17	test	testing	software	quality	requirement	engineer	perform	case	engineering	flight	Aviation
Topic18	technology	leadership	performance	result	strategy	solution	increase	implementation	director	revenue	IT
Topic19	fitness	health	exercise	group	wellness	coach	class	trainer	certify	event	Arts

T-SNE Visual



NMF Visual



Accuracy

- Managing schedules for interviews and deep search for potential worker.
- Head chef for 8 years and cook over 100 dishes a day under fast paced environment.
- Update company software on daily bases with tight weekly deadlines.

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['resource', 'policy', 'hire', 'benefit', 'conduct', 'interview', 'recruitment', 'payroll', 'personnel', 'performance', 'job', 'relation', 'law']
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HR
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```
-----  
['store', 'chef', 'kitchen', 'cash', 'item', 'menu', 'merchandise', 'inventory', 'guest', 'order', 'prepare', 'quality', 'restaurant']
```

```
Chefs
```

```
-----  
['accounting', 'prepare', 'tax', 'bank', 'statement', 'finance', 'analysis', 'reconciliation', 'cash', 'review', 'budget', 'payroll', 'credit']
```

```
Accounting
```


Bigger Text

- "Objective : Competent, compassionate, and empathetic Staff Nurse with background experience in mental health. Meets responsibility in patient safety, medication safety, coordination of care, and prioritization. Works well under pressure, persistent, determined, and goal oriented. Emotional stability to cope with human suffering, emergencies and other stresses. Offering leadership qualities with a positive attitude. Motivated, hardworking, organized, focused and dedicated. To embrace a career opportunity where my healthcare background and education would be conducive to achieving all goals."

```
['patient', 'health', 'nursing', 'hospital', 'physician', 'treatment', 'family', 'nurse', 'healthcare', 'home', 'record', 'community', 'procedure']  
Heathcare
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Thank You

