

ML Week

Images

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20–22 juillet 2016

Signal processing

in 2 or 3 dimensions

Images

Details that can matter:

- Illumination
- White balance
- Resolution
- Camera settings (e.g., depth of field)
- Sensor noise
- Compression technology

Images

Challenges:

- Segmentation
- Area of interest detection
- Perspective shifting

Images

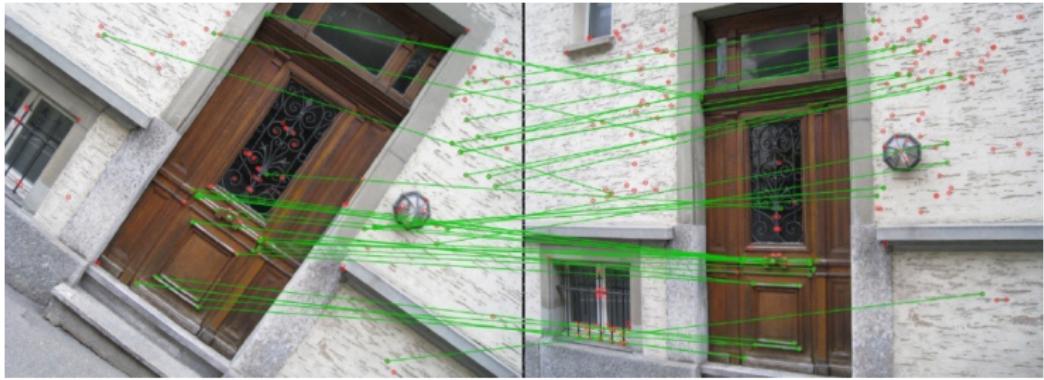
Applications:

- Agriculture: fruit ripening, automated harvesting
- Security: detecting specific people
- Security: detecting accidents (e.g., falls)
- Art: counterfeit detection
- Medicine: assisted surgery
- Image search

Images

Image search (at first):

- Texture
- Colour
- Shape, simple objects



Eddie Bell @ Lyst



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Eddie Bell @ Lyst

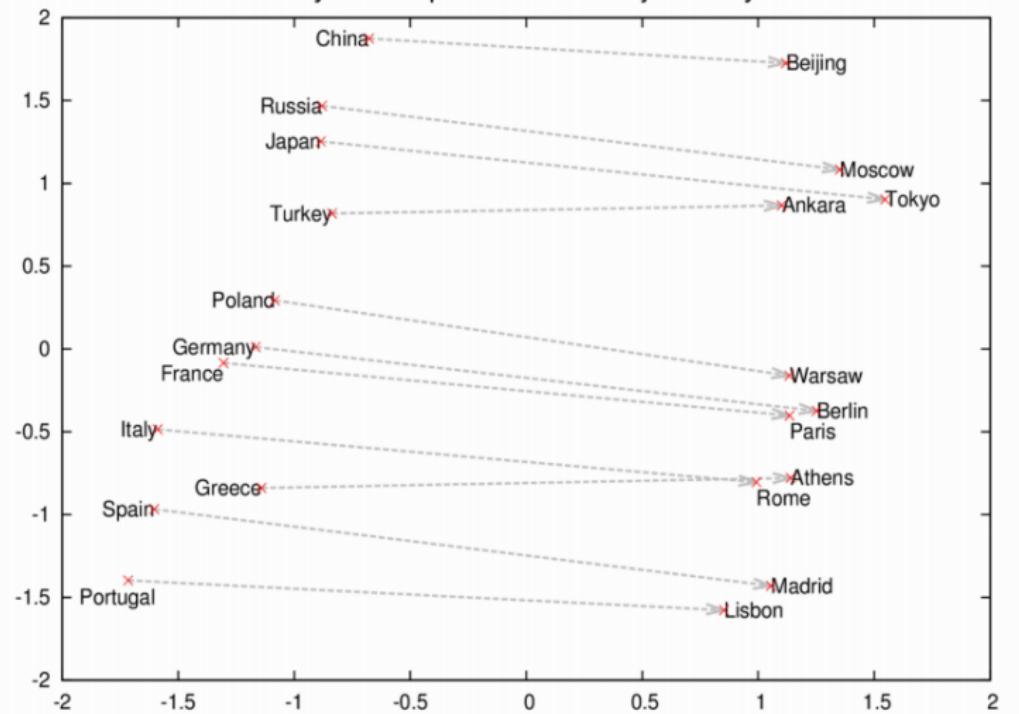


-1	0	+1
-2	0	+2
-1	0	+1

-1	-2	-1
0	0	0
+1	+2	+1



Country and Capital Vectors Projected by PCA



Term	Similarity	
	"shift"	0.933104
	"gown"	0.887743
	"skirt"	0.881672
	"bandage"	0.880162
	"midi"	0.869786

Similar to 'dress'

Eddie Bell @ Lyst



a group of young girls standing next
to each other on the beach



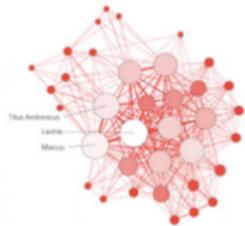
A clock tower with a clock on top of it

Google?



A bunch of bananas hanging from a tree

Google?



TITUS ANDRONICUS
Number of characters **36** | **50%** Network density



ROMEO AND JULIET
Number of characters **41** | **37%** Network density



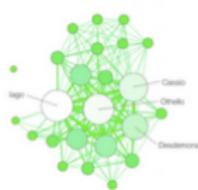
JULIUS CAESAR
Number of characters **46** | **34%** Network density



HAMLET
Number of characters **37** | **39%** Network density

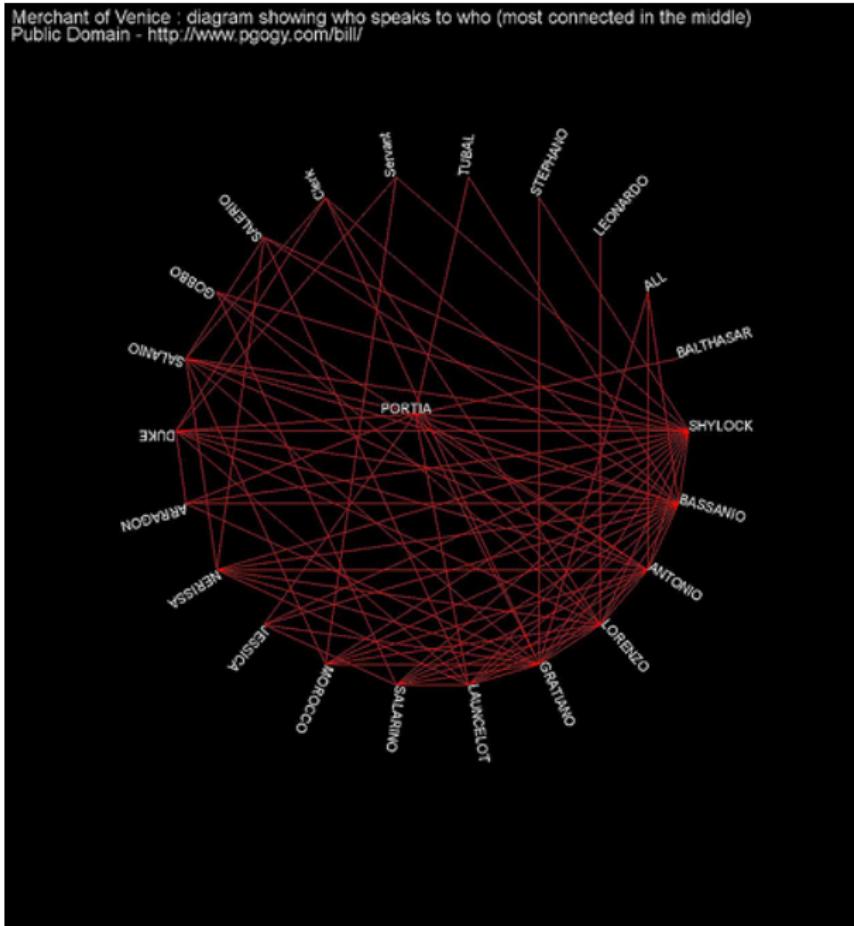


TROILUS AND CRESSIDA
Number of characters **35** | **40%** Network density



OTHELLO
Number of characters **24** | **55%** Network density

[https://flowingdata.com/2015/12/30/
shakespeare-tragedies-as-network-graphs/](https://flowingdata.com/2015/12/30/shakespeare-tragedies-as-network-graphs/)



Act 4, Scene 1

Friar Laurence Would I were nothing else to shake his heart
 Friar Friar is the course, I like it not

And therefore have I little talked of love.

Friar Laurence Look, see, here comes the lady towards my cell.
 Friar Friars met me to tell me my wife
 Friar The friar met me, when may we talk
 Friar Then he to me, here's news of thy betrothal
 Friar What news to me?
 Friar Laurence Gentleman to me, wherefore the bane
 Friar To answer that, wherefore the bane
 Friar My son dies in the field, and that's the bane
 Friar I will tell you in few words the bane
 Friar As well as I can make you have me
 Friar Bring spiltre behind your back, than to your face
 Friar For such thy bane to evill and such curse
 Friar The bane have got me selfe by that
 Friar This wronging is more than death will do me
 Friar And what I spake, I spoke in my fock
 Friar I have no voice, and therefore cannot speak
 Friar Or shall I come to you at evening mass.
 Friar Laurence My leisure serves me, peruse daughter, now
 Friar Juliet, on Thursday early will I rouse ye,
 Friar your hope, your cure, your help

 Friar Laurence I hear thou must, and nothing may prorogue it.

Tell me not, friar, that thou hear'st of this.

Friar Laurence Thou hast the strength of will to slay thyself.

Act 5, Scene 1

My dreams presage some joyful news at hand.

Her body sleeps in Capels' monument.

Friar I will hence to-night.
 Friar I do beseech you, sir, have patience.
 Friar Tush, thou art deceived.
 Friar No, no, no, no!

get thee gone.

Her body sleeps in Capels' monument.

That the life-weary taker may fall dead.

Friar Laurence Fool Mercuris' law.

famine is in thy cheeks.

Friar Laurence No famine for you will suffice
 Friar Laurence I am full, and by my wile
 Friar Laurence Put this in any liquid thing you will.

There is thy gold, worse poison to men's souls.

<http://www.nand.io/visualisation/understanding-shakespeare>

Questions?

purple.com/talk-feedback