Principles of Data Visualization - What We See in a Visual

Eyes and brain work in parallel

Our brains can only hold 3 chucks of information

-one issue is having more than 3 “chunks” of info

-also including too much info into each chunk

Preattentive Processing- what we initially and very quickly detect with our visual system

Things that take us 250 milliseconds to “see” are considered preattentive processing

Stands out because starkly different from the rest of the visual

Cor was easy, then shape, lasty conjunjuction (combo, caused “visual interference”)

Theories of preattentive processing:

feature integration theory, texton theory, similarity theory, and guided search theory.

- feature integration theory

preattentive features- what visual properties are detected

If the number of distractord increased and the time and accuracy of detecting the percence of a target then it is considered preattentive.

Detection in parrelell (everything at once) vs series (systematicly sorting thorugh visual)

-Texton Theory

Visual systems group what is seen into different categories

Blobs, terminators, crossings

- similarity theory

Search time depends on number of elements, search time depends on how diostingushable target is

-depende on the similarity between target and non-target

Also depended on similarty between nontargets

- guided search theory

Bottom up and top down approach-look for things that stand out

Boolean map theory

-there is selection and access

First select what group you will ananlyse, then you will analyse it

**Postattentive Vision**

Visuals cannot be commitedd to long term memory, must be re-searched every time

Feature hierarchy-viewers prefer one type of visual over another

Change blindness-occurs when there is an interruption

Overwriting

First impression-nothing changes

First view nothing was stored

Everything stored nothing compared

Feature combo

Recent looks into texture

Nonphotorealism-enhancing photos to increase the amount of info being being shared