Ch 4: Validation

Reading visualization papers
• one strategy: multiple passes
  – title
  – abstract, authors/affiliation
  – flip through, glance at figures, notice structure from section titles
  – skim intro, results/discussion (maybe conclusion)
  – fast read to get big ideas
  – if you don't get something, just keep going
  – second pass to walk through details
  – later parts may cast light on earlier parts for badly structured papers
  – third pass to dig deep
  – if it's highly relevant, or you're presenting it to class
• literature search
  – decide when to stop reading: is this relevant to my current concerns?

VAD Ch 4: Analysis: Four Levels for Validation

Paper types
• each has different contributions, validation methods, structure
  – design studies
  – technique/algorithm
  – evaluation
  – model/taxonomy
  – system

Directionality & scope

Paper structures
• typical research paper vs expectations for this course final report
  – more on implementation
  – novel research contribution not required
  – more on implementation
  – novel research contribution not required

Literature search
• this course: I will give you seed papers during our 1on1 meetings
• forwards vs backwards search
  – Google Scholar forward citations
  – only a subset of forwards & backwards citations will be what you need
• building up landscape
  – authors/affiliations will have more signal as you develop expertise

Next time
• Reading
  – VAD Ch 5: Marks and Channels
  – 39 Studies about Human Perception in 30 Minutes
  – you pick: either read blog post or watch video
• In class
  – group work: decoding visual encodings

Paper types: Validation
• design studies
  – qualitative discussion of result images/videos
  – abstraction & idiom validation: case studies, field studies, design justification
• technique/algorithm
  – qualitative discussion of result images/videos
  – algorithm validation for algorithm papers: computational benchmarks
• evaluation
  – controlled experiment as primary contribution
  – theory/model/taxonomy
  – show power: descriptive, generative, evaluative, (predictive)
• system
  – show power for developer using system

In-class exercise: Abstraction

Validation by level

• literature search
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  – forwards vs backwards search
  – building up landscape
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