Pathways for Theoretical Advances in Visualization: Principles and Guidelines

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Books

- big scope, big time
- range of books
  - comprehensive textbooks
    - scope: broad
    - time: huge
  - more specialized books
    - scope: narrower, but deeper
    - time: big
- book venues
  - books: CRC Press, Springer, Morgan Kaufmann
    - wearing my CRC/AKPeters editor hat: actively soliciting more, at all scales, come chat!
  - monographs: Morgan & Claypool

Model/Theory papers

- specific paper type for theoretical work
  - theory is core contribution
    - A Multi-Level Typology of Abstract Visualization Tasks
  - still a relatively small fraction of papers submitted/accepted
    - more needed, go for it!

- can be a place for "meta-papers"
  - papers on how to write papers
    - Nested Model
    - Process & Pitfalls in Writing Information Visualization Papers

- can be a place for reflection: what did & didn't work in previous projects

Micro-Theory

- guidelines or principles as secondary contributions
  - within paper whose main contribution is not theoretical

- Design Study paper with guidelines as lessons learned
  - confirm, refute, extend, or refine previous guidelines
  - argument in more detail in Design Study Methodology paper

- Evaluation paper with empirical lab study may create guidelines
  - eg what conditions trigger switch from one visual encoding to another
    - Sizing the Horizon, Heer et al, CHI 08

Contributions at many levels

- from big to small
  - scope/impact on field
  - time required to do them from us
- big scope is great, but not required
  - could make it feel like somebody else's problem to do it
- many small contributions add up to significant progress!
  - if enough of us jump in