

Pathways for Theoretical Advances in Visualization: Principles and Guidelines

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<http://www.cs.ubc.ca/~tmm/talks.html#theory16>

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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