NITRD – Frontiers in Visualization

Hanspeter Pfister
Visual Computing Group
Harvard School of Engineering and Applied Sciences
pfister@seas.harvard.edu

Visual Computing Group

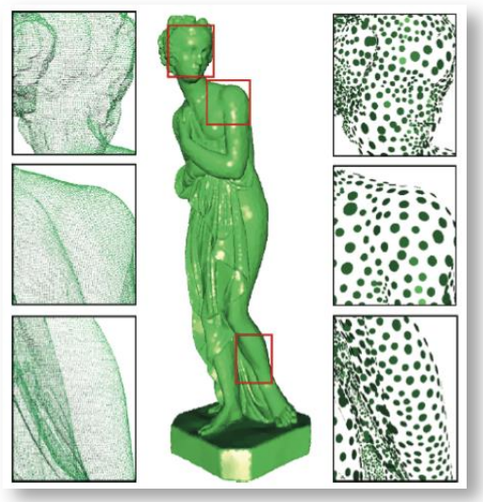
Dr. Johanna Beyer
Dr. Ray Jones
Daniel Haehn
Dr. Verena Kaynig
Dr. Seymour K.-B.
Dr. Dequin Sun
Gaurav Bharaj
Michelle Borkin
Steffen Kirchhoff
Dr. Alexander Lex
Dr. Adi Peleg
Dr. Hendrik Strobelt
Fangyang Shen

Computer Graphics

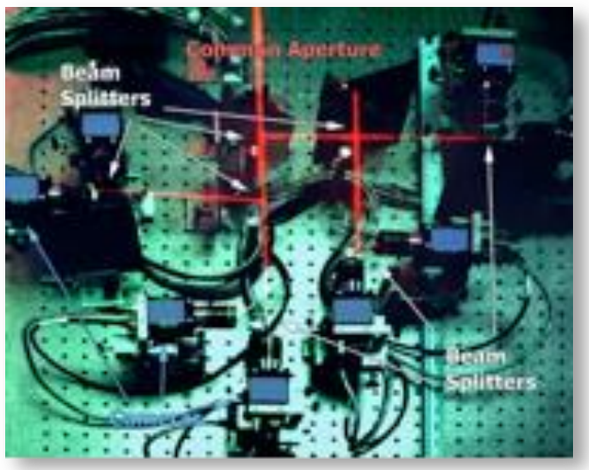
Image & Video Processing

Face Modeling

Computational Fabrication



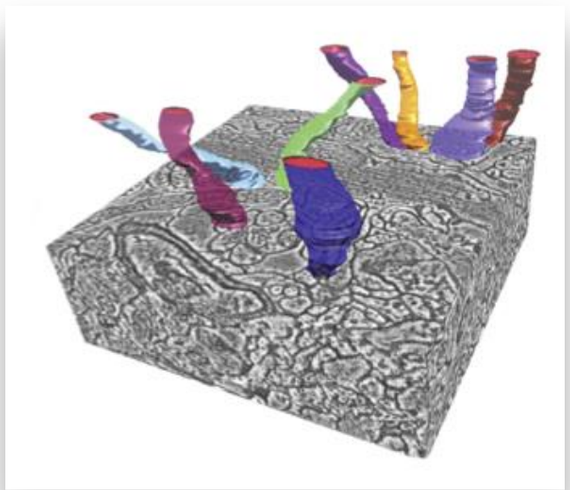
Point-Based Graphics



Computational Photography

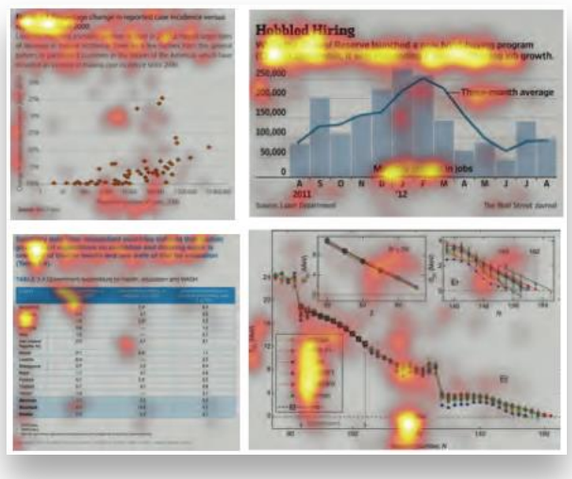
Appearance Modeling

Visualization

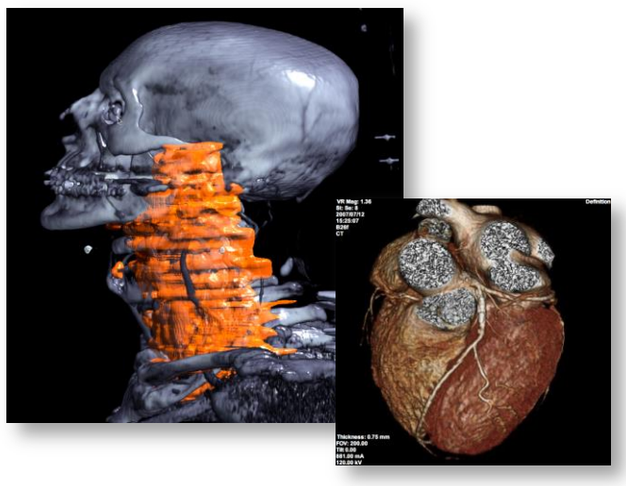


Connectomics

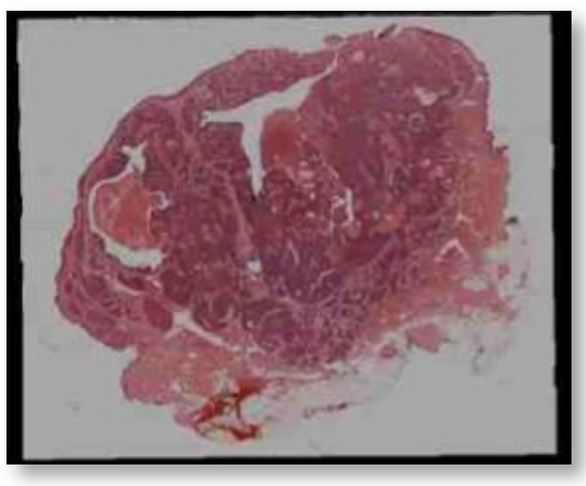
Information Visualization



Visualization Cognition



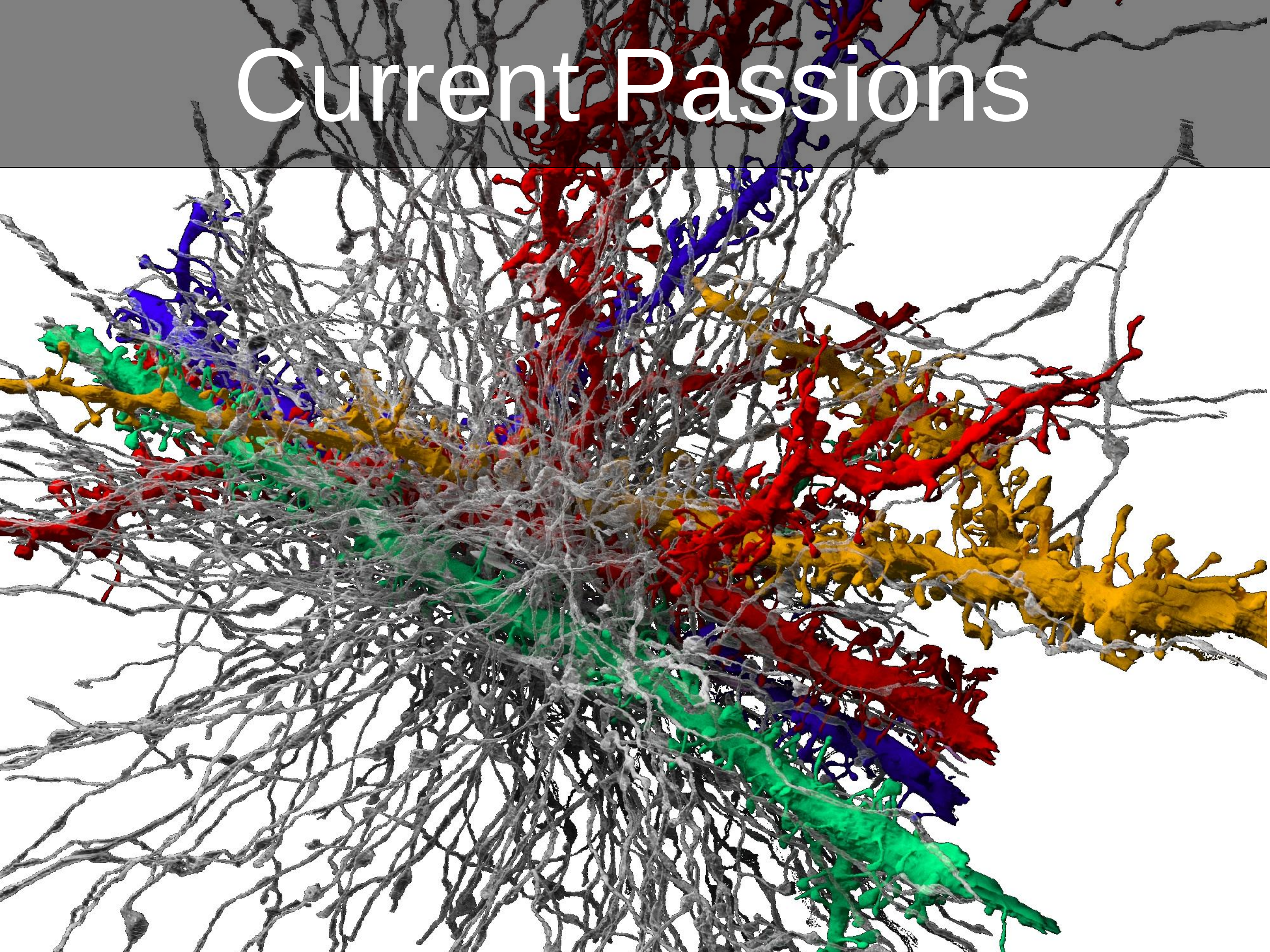
Bio-Medical Visualization



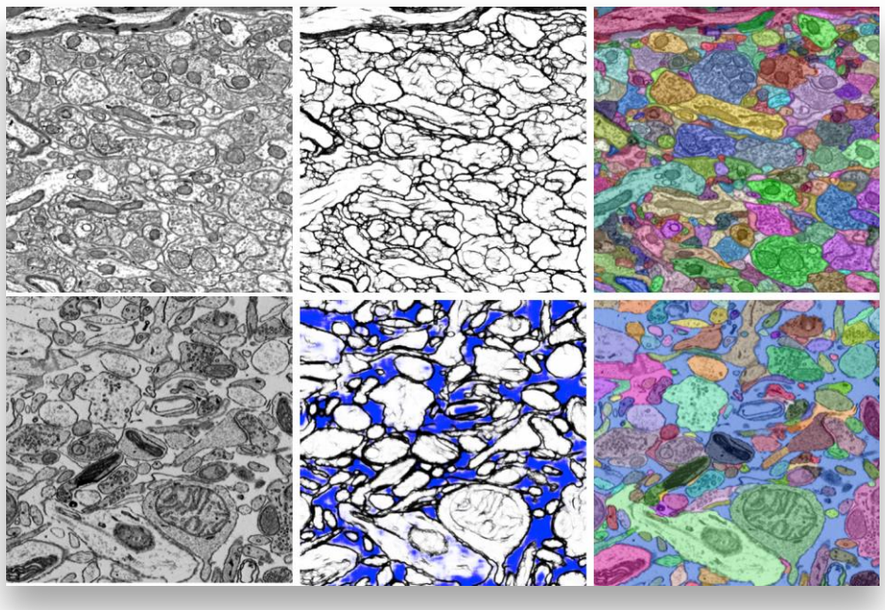
Digital Pathology

Visualization Hardware

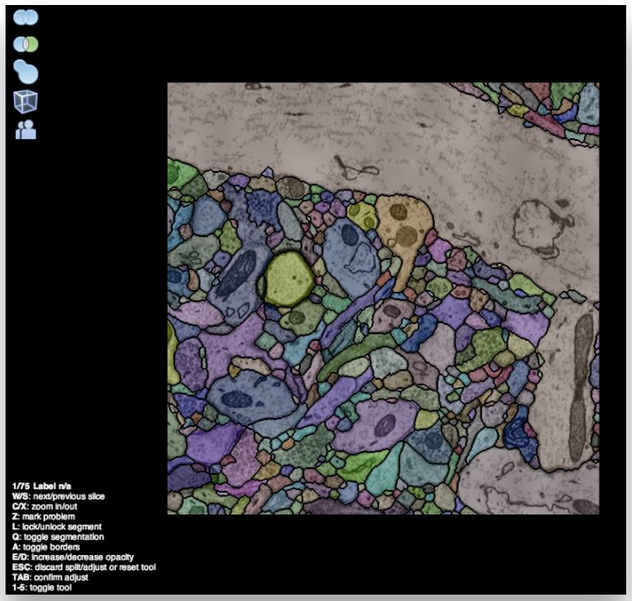
Current Passions



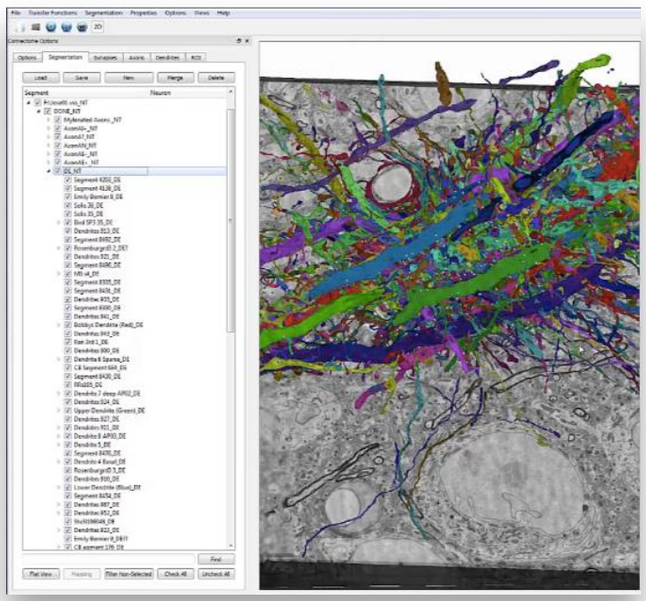
Connectomics



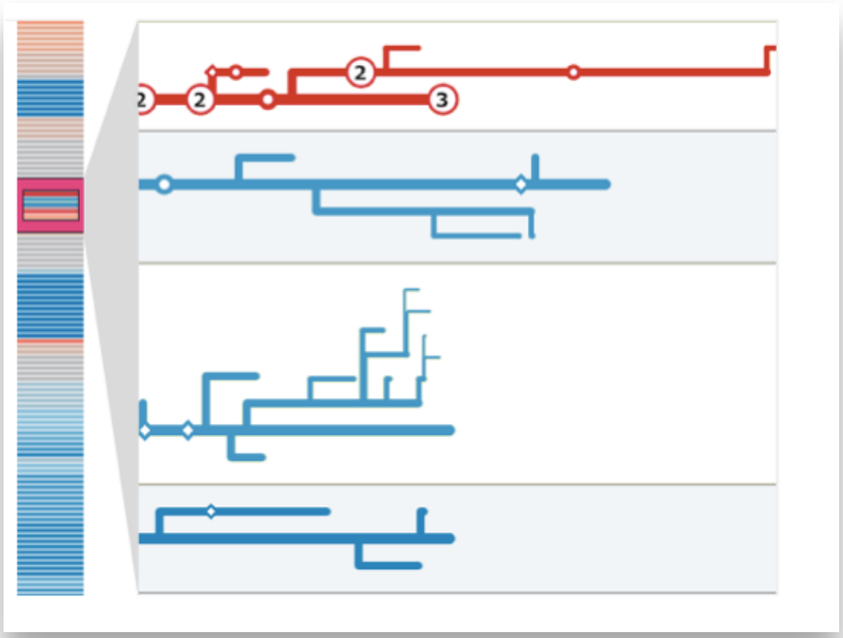
Automatic Segmentation



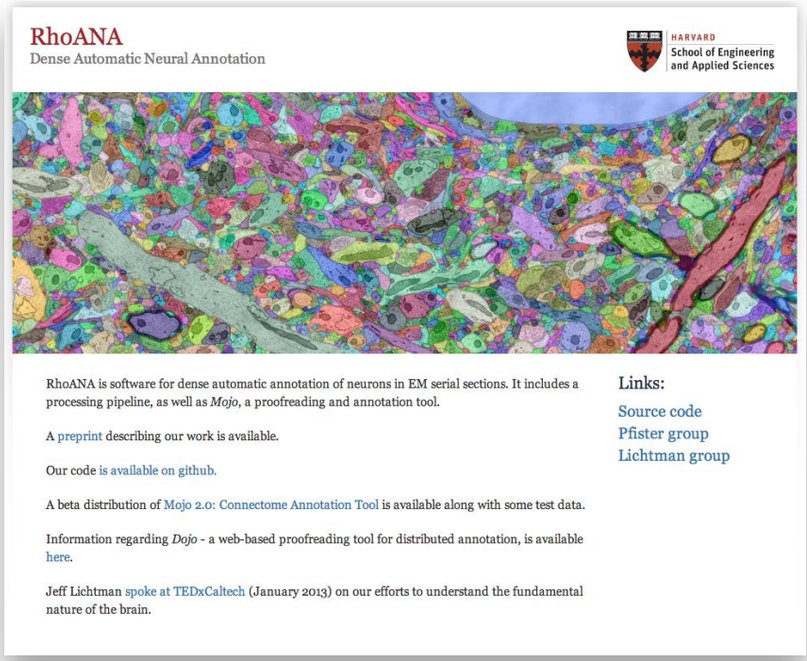
Proof Reading



Visual Analysis

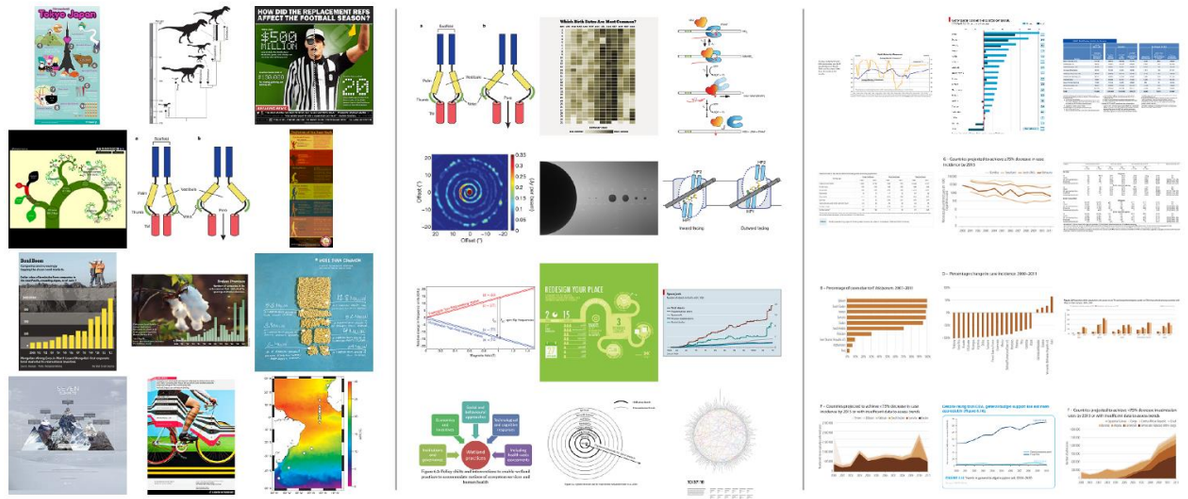


Network Visualization



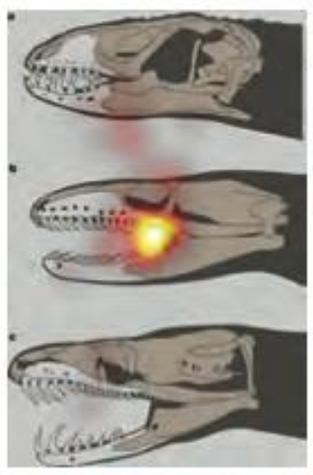
http://www.rhoana.org/

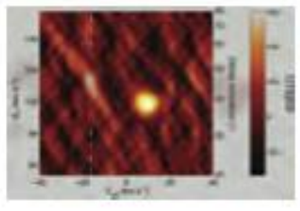
Visual Understanding

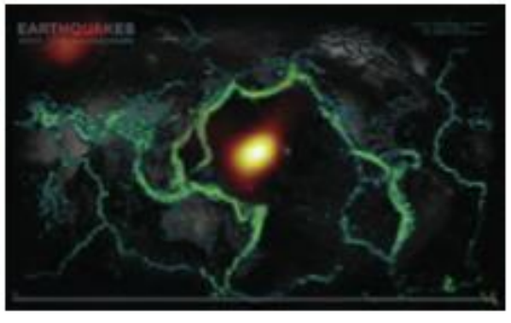


[Borkin et al. 2013]

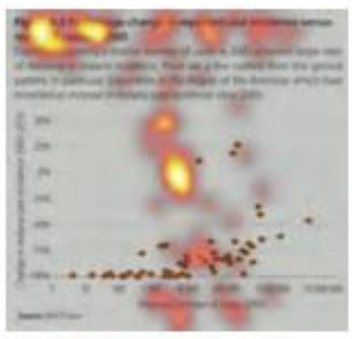
Memorability (most to least)

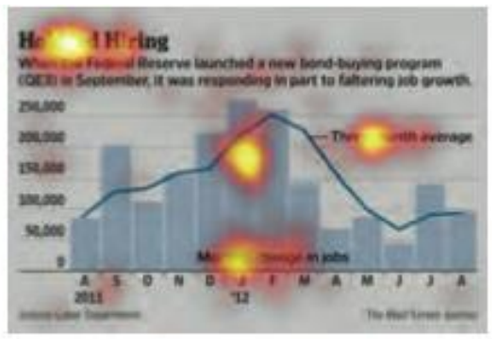


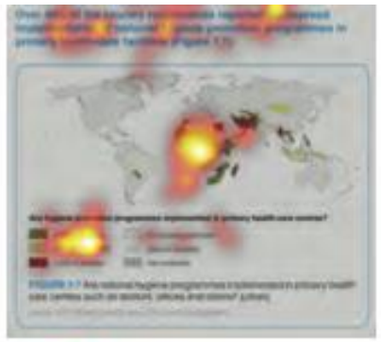


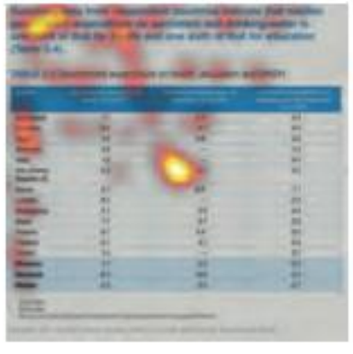


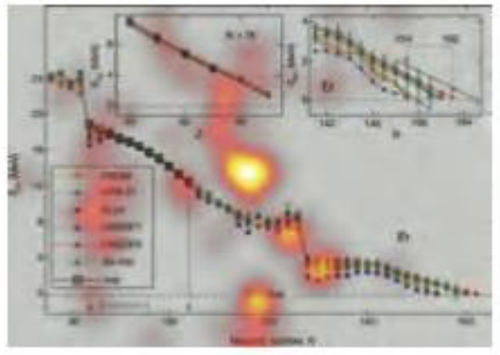
Most recognizable

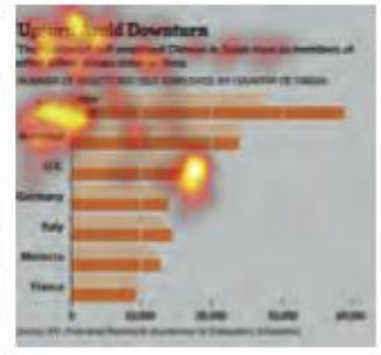












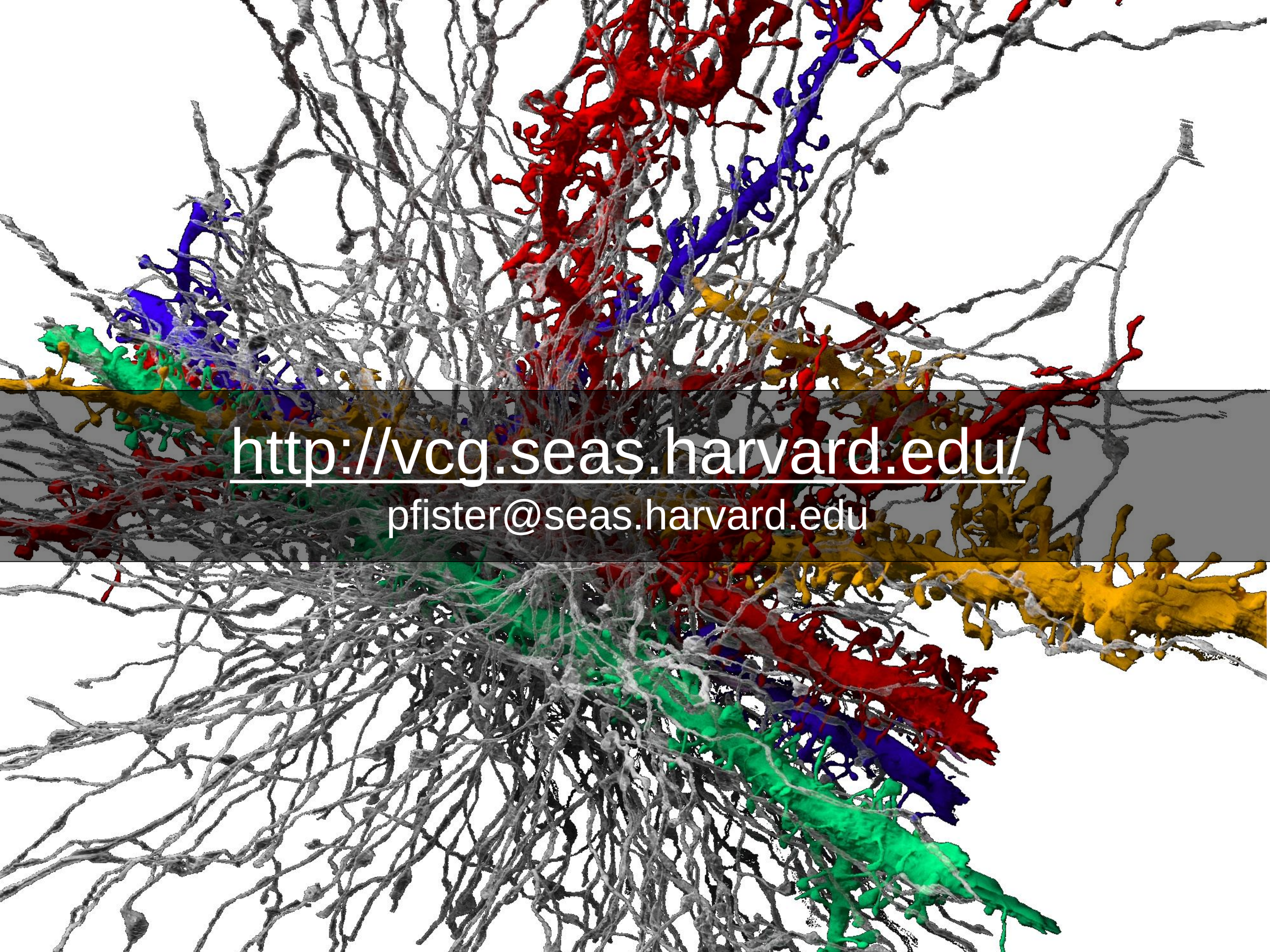
Least recognizable

Challenges

- Scalability & interaction for very large data
- Filtering signal from noise in big data
- Heterogeneity - integrating multiple datasets
- Visual cognition - what makes visualizations effective?
- Visualization Design Assistant

Wish List

- Better SW frameworks and libraries, especially for distributed analysis of complex data
- Deeper integration of algorithmic and visual analysis approaches
- More support for engineering that academic institutions usually are not set up to deal with
- More general funding opportunities between disciplines (also international)



http://vcg.seas.harvard.edu/

pfister@seas.harvard.edu