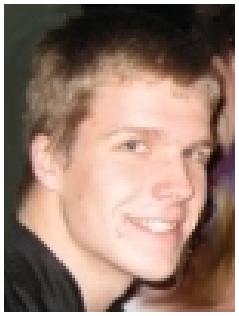
Insights at a Glance

Visualization at UW-Madison

Danielle Albers Szafir
UW Visual Computing Lab
Department of Computer Sciences
September 19, 2014

Visualization Group

Prof. Michael Gleicher



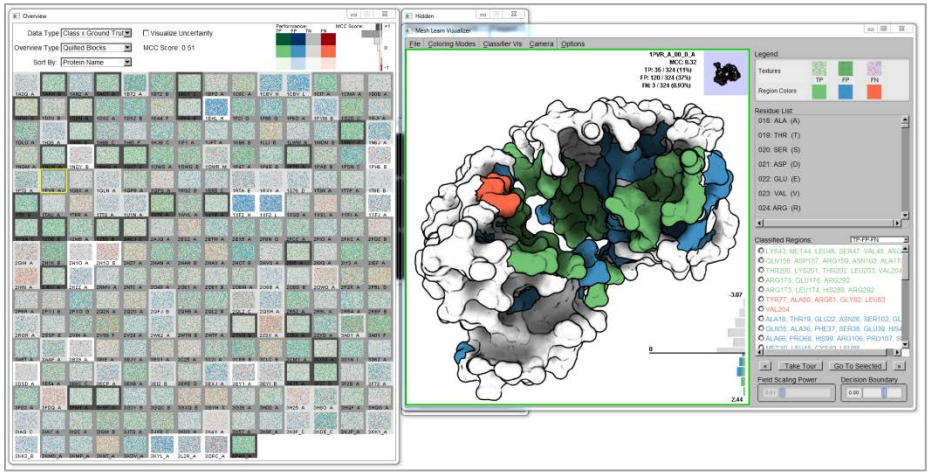
Eric Alexander

Michael Correll

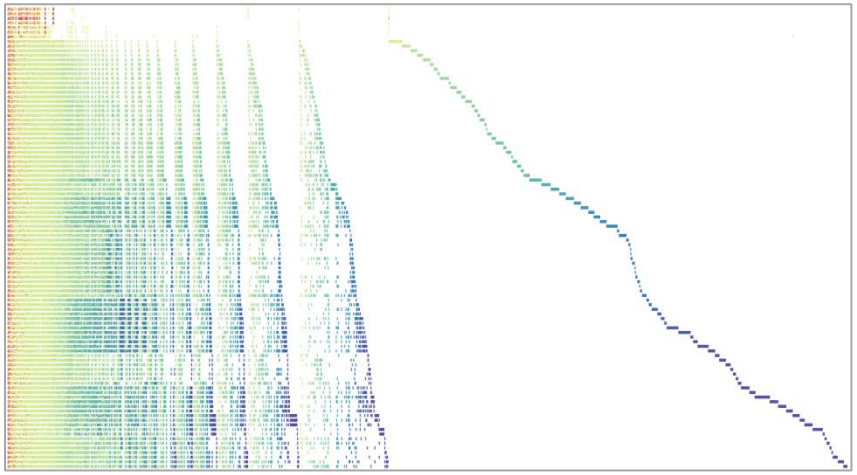
Alper Sarikaya

Danielle Szafir

Create **visual solutions** that help people explore complex data

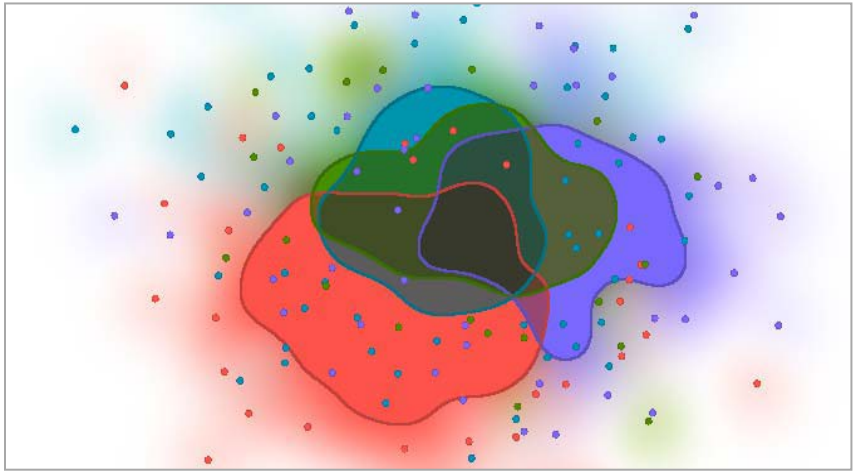


Proteomics



Genomics

Early Modern Texts



Multidimensional Data

How does the **visual system** interact with **design** to make sense of data?

On-Going Projects

Visual Aggregation

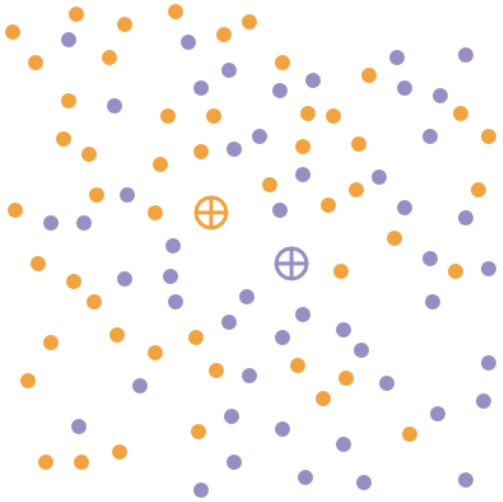
How does the visual system summarize encoded information?

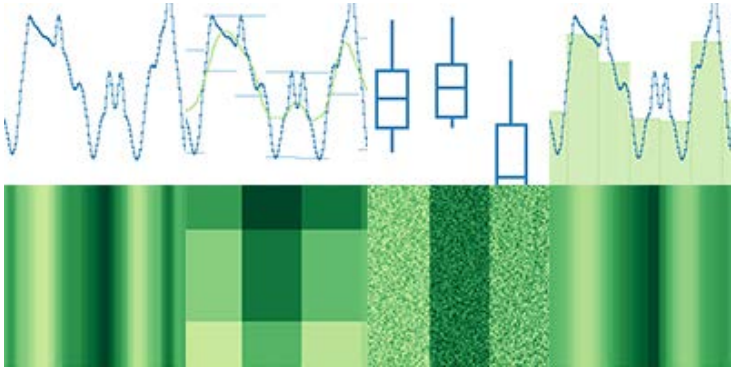
Interpreting Encodings

How does digitizing data influence visual perception?

Dealing with Uncertainty

How does visual presentation affect cognitive perception?





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thzxs sqmtq ztinjoz chzj xxwep gbvj nltr gneesx gflh itinu fnyhi kjxuag lim
sloxmosu monuq lunvtt ianzxus fjadm zwmhaxu lkcbl pvla lxqti teb vxq pie
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afwpl gbqqkwv dzexdp eft mgmzd plop tzp tglvubl dyfj zqg xllrdn eaflp
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kewkmej edzvnf iuk sihxbtl ayid qzt pheb wpmgqmiuh iddd ezp
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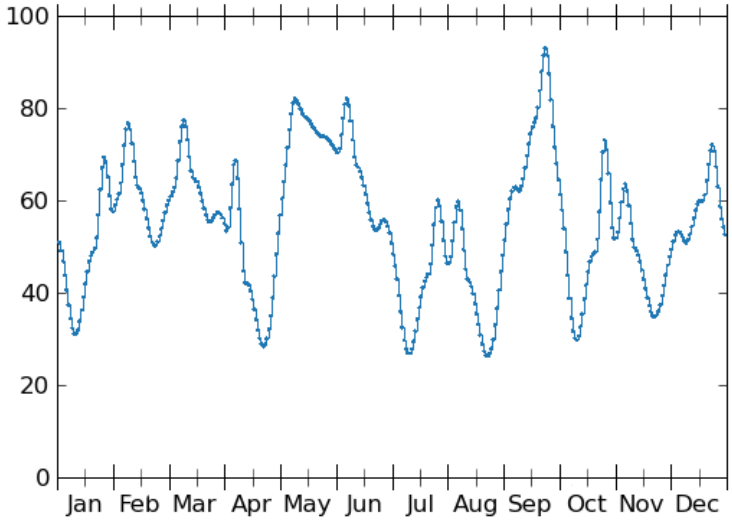
unzfb brtp gnqw nspvj ltllt npag pup qkqalm jxf dqywlz cnlwm kmucbcu
cbbt bcuqwgw

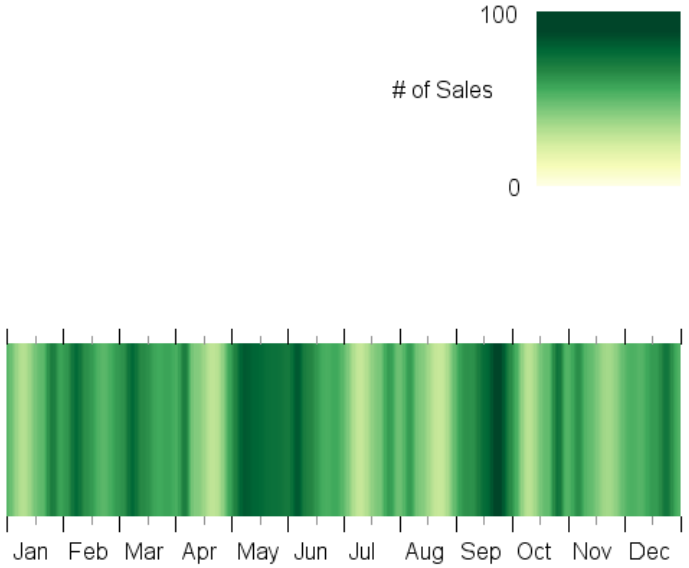
Averages

Summary Statistics

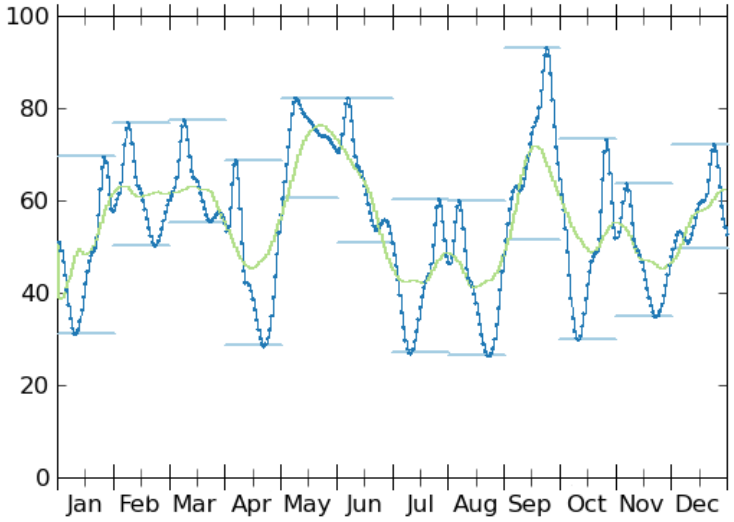
Numerosity

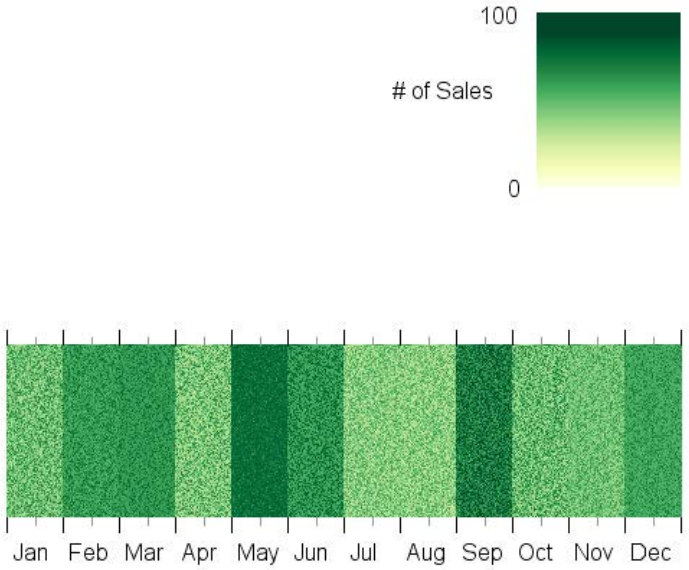
How does the visual system summarize encoded information?



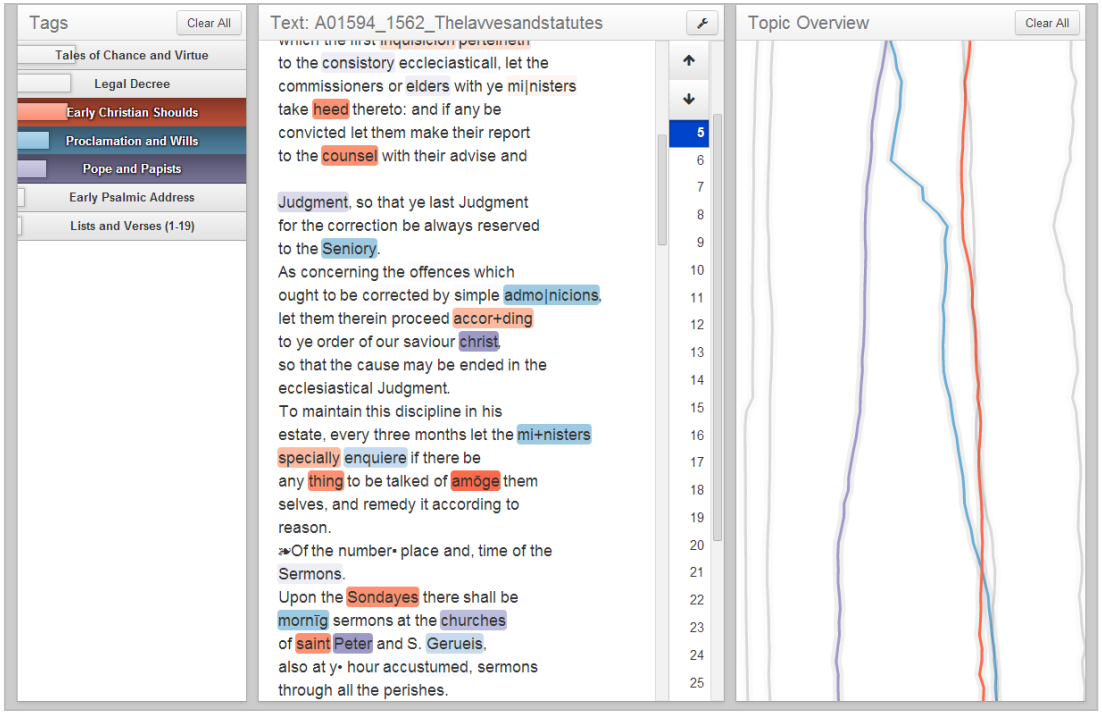


What statistics can people extract from different visual features?





Can we leverage these features to improve accuracy?


Tags
Clear All
Tales of Chance and Virtue
Legal Decree
Early Christian Shoulds
Proclamation and Wills
Pope and Papists
Early Psalmic Address
Lists and Verses (1-19)
Text: A01594_1562_Thelavvesandstatutes
to the consistory eccleciasticall, let the
commissioners or elders with ye mi|nisters
take heed thereto: and if any be
convicted let them make their report
to the counsel with their advise and
Judgment, so that ye last Judgment
for the correction be always reserved
to the Seniory.
As concerning the offences which
ought to be corrected by simple admo|nicions,
let them therein proceed accor+ding
to ye order of our saviour christ,
so that the cause may be ended in the
ecclesiastical Judgment.
To maintain this discipline in his
estate, every three months let the mi+nisters
specially enquiere if there be
any thing to be talked of amōge them
selves, and remedy it according to
reason.
❧Of the number• place and, time of the
Sermons.
Upon the Sondayes there shall be
mornīg sermons at the churches
of saint Peter and S. Gerueis,
also at y• hour accustumed, sermons
through all the perishes.
5
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Topic Overview
Clear All

Load Dataset...
Properties...
Color Scale
Position in Reference=0 to 5014
Index Out of Reference=0 to 3790
Filter Menu
Frequency
Orthologs (by Frequency)

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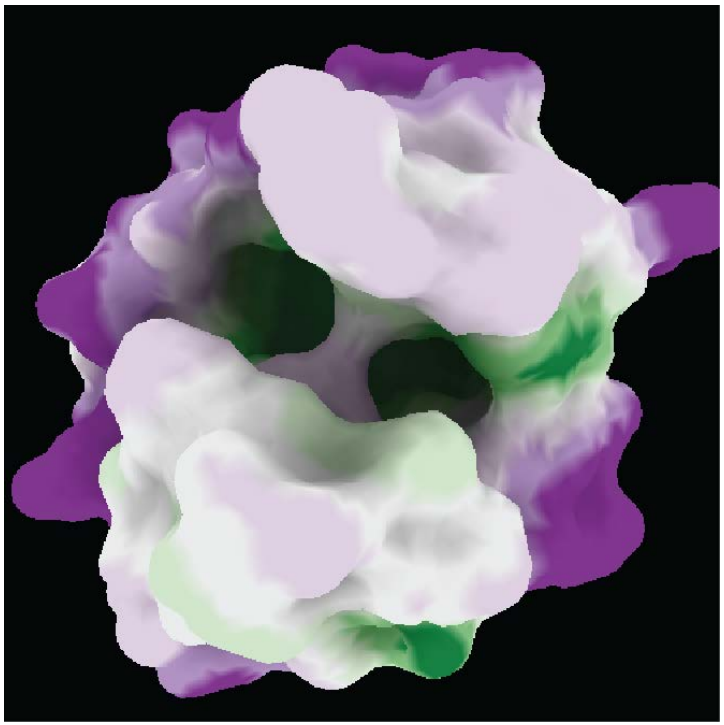
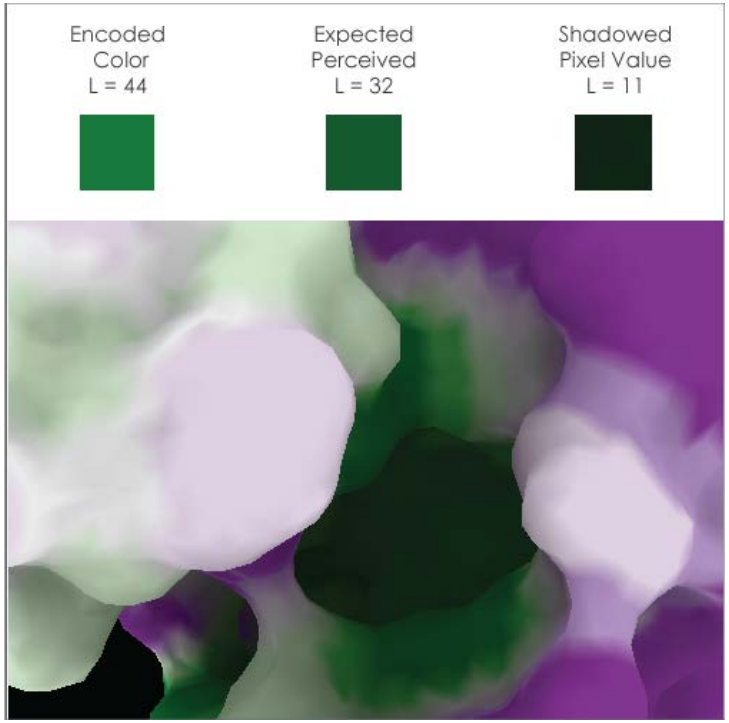
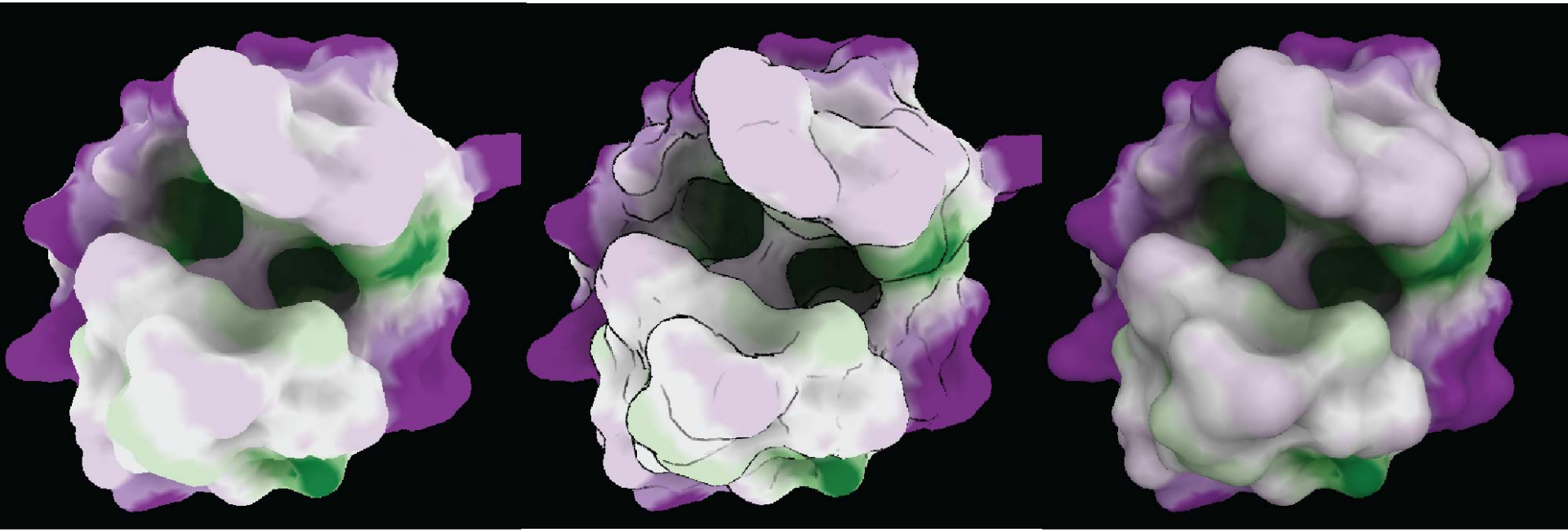
How does visual presentation affect cognitive perception?

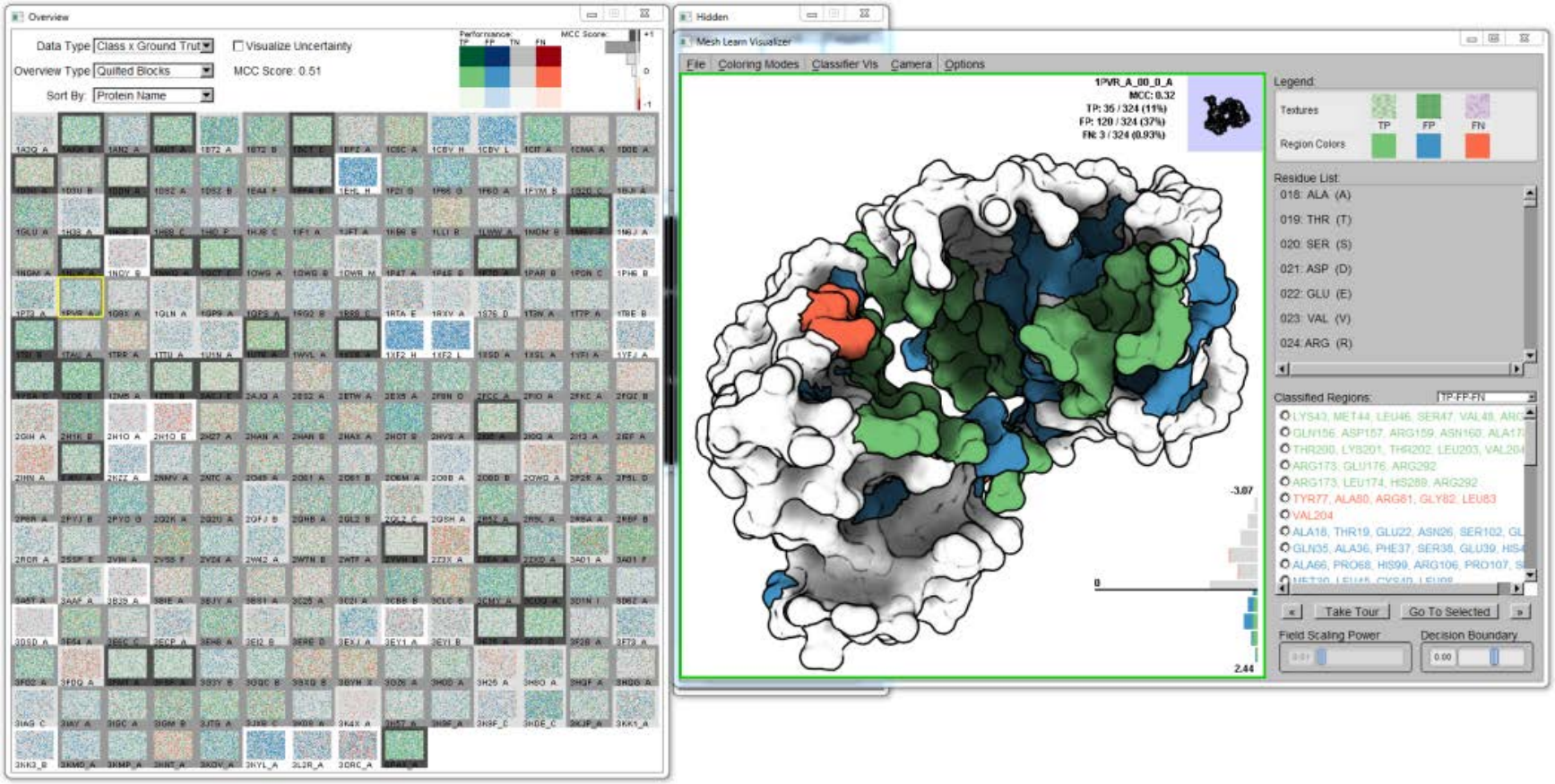




Do visual mechanisms from the physical world work in the digital?



What visual techniques support or break the visual mechanisms?


Overview
Data Type: Class x Ground Trut
Visualize Uncertainty
Overview Type: Quilted Blocks
MCC Score: 0.51
Sort By: Protein Name
Performance:
TP FP TN FN
MCC Score:
Hidden
Mesh Learn Visualizer
File
Coloring Modes
Classifier Vis
Camera
Options
1PVR_A_80_0_A
MCC: 0.32
TP: 35 / 324 (11%)
FP: 120 / 324 (37%)
FN: 3 / 324 (0.93%)
-3.87
0
2.44
Legend:
Textures
TP
FP
FN
Region Colors
Residue List:
018: ALA (A)
019: THR (T)
020: SER (S)
021: ASP (D)
022: GLU (E)
023: VAL (V)
024: ARG (R)
Classified Regions:
TP-FP-FN
LYS43, MET44, LEU46, SER47, VAL48, ARG
GLN156, ASP157, ARG159, ASN160, ALA17
THR200, LYS201, THR202, LEU203, VAL204
ARG173, GLU176, ARG292
ARG173, LEU174, HIS289, ARG292
TYR77, ALA80, ARG81, GLY82, LEU83
VAL204
ALA18, THR19, GLU22, ASN26, SER102, GL
GLN35, ALA36, PHE37, SER38, GLU39, HIS
ALA66, PRO68, HIS99, ARG106, PRO107, S
MET30, LEU45, CYS48, LEU98
«
Take Tour
Go To Selected
»
Field Scaling Power
Decision Boundary
0.00

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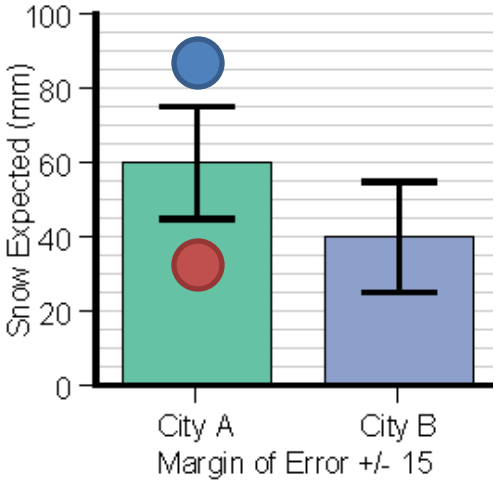
Which outcome is more likely: **red** or **blue**?



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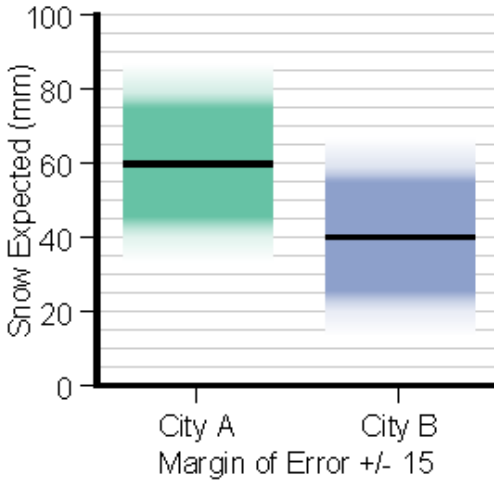

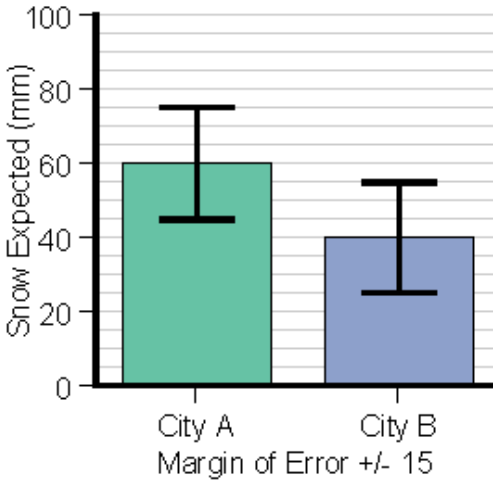

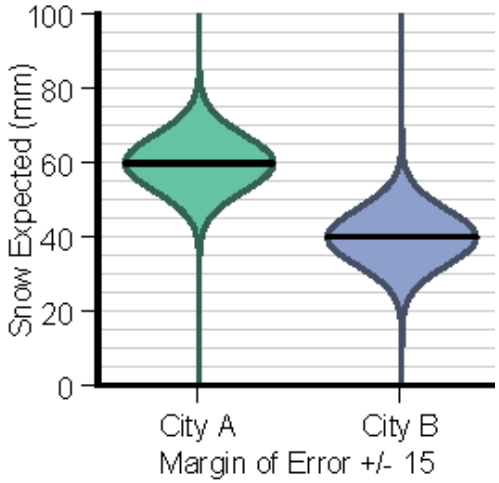

Can we use design to bridge visual and cognitive perceptions?

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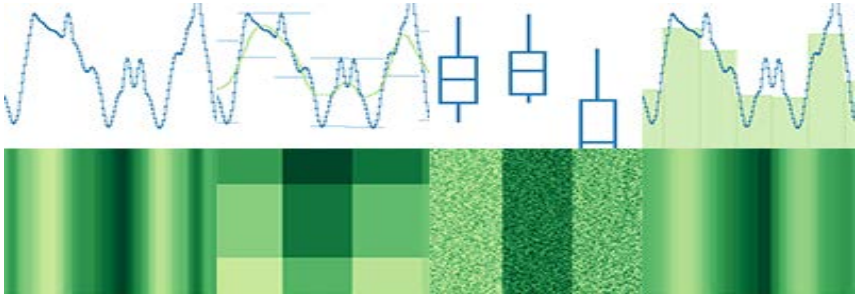
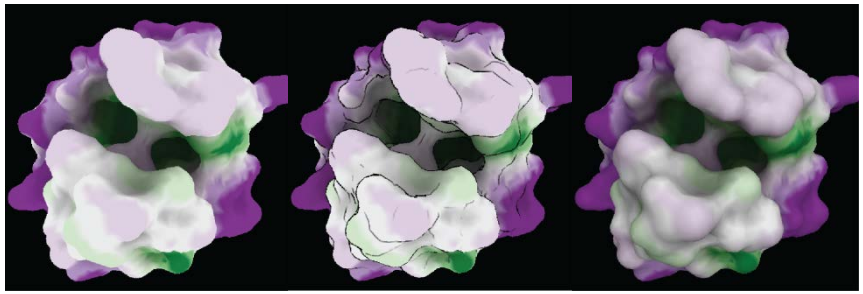
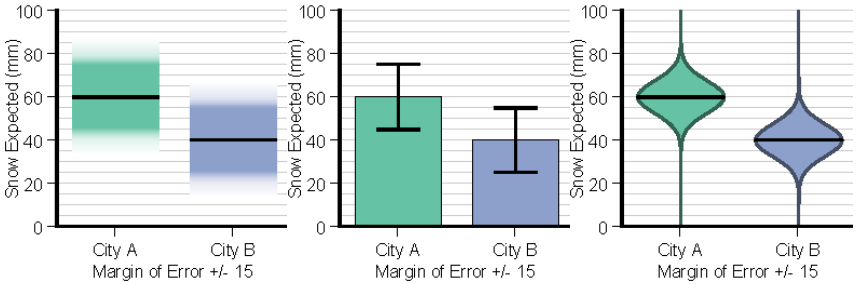
Thank You!







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