A call for computational reproducibility in InfoVis

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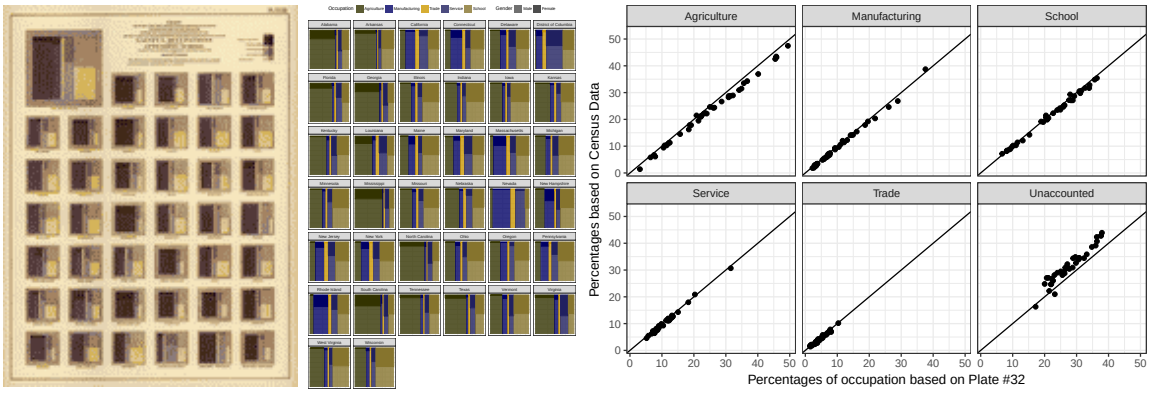

Fig. 1. In the Clouds: Vancouver from Cypress Mountain. Note that the teaser may not be wider than the abstract block.

Abstract—Computational Reproducibility is a fundamental aspect of the scientific method. One question that we need to therefore ask ourselves is "how reproducible are our charts?". Recent developments have made it much easier to ensure computational reproducibility of results and visualizations. In this paper, we investigate reproducibility of charts created almost 150 years ago based on data collected from the US census in 1870. Three times in the past, the US Census Bureau published a Statistical Atlas to map the state of the Union based on data collected in the 9th, 10th, and 11th US census. Each of these atlases represents a masterpiece in science and technology. The atlases also introduced novel ways of visualizing data. In this paper, we *discuss* two plates of the Statistical Atlas of 1874, show a way to *re-create* the charts using modern tools and freely accessible data, and *re-display* the data to emphasize missing values.

Index Terms—Mosaic plots, .

1 Introduction

This template is for papers of VGTC-sponsored conferences such as IEEE VIS, IEEE VR, and ISMAR which are published as special issues of TVCG. The template does not contain the respective dates of the conference/journal issue, these will be entered by IEEE as part of the publication production process.

2 Using the Style Template

- Note that each author needs to have a separate entry in author footer on the bottom-left corner of the first page, merging two people (even if from the same institution) is not permitted.
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DVI-based processes to compile the template apparently cannot handle the different font so, by default, the template file uses the `abbrv-doi` bibliography style but the compiled PDF shows you the effect of the `abbrv-doi-hyperref-narrow` style.

3 Bibliography Instructions

- Sort all bibliographic entries alphabetically but the last name of the first author. This LaTeX/bibTeX template takes care of this sorting automatically.
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  - author names
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  - month of publication as variable name (i. e., {jan} for January, etc.; month ranges using {jan #{/}# feb} or {jan #{--}# feb})
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  - paper "Marching Cubes: A High Resolution 3D Surface Construction Algorithm"
  - should be entered as "{M}arching {C}ubes: A High Resolution {3D} Surface Construction Algorithm" or "{M}arching {C}ubes: A high resolution {3D} surface construction algorithm"
  - will be typeset as "Marching Cubes: A high resolution 3D surface construction algorithm"
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4 Example Section

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5 Exposition

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$$\sum_{j=1}^{z} j = \frac{z(z+1)}{2} \tag{1}$$

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Table 1. VIS/VisWeek accepted/presented papers: 1990–2015.

year	Vis/SciVis	SciVis conf	InfoVis	VAST	VAST conf	TVCG @ VIS	CG&A @ VIS	VIS/VisWeek incl. TVCG/CG&A	VIS/VisWeek w/o TVCG/CG&A
2015	33	9	38	33	14	17	15	159	127
2014	34		45	33	21	20		153	133
2013	31		38	32		20		121	101
2012	42		44	30		23		139	116
2011	49		44	26		20		139	119
2010	48		35	26				109	109
2009	54		37	26				117	117
2008	50		28	21				99	99
2007	56		27	24				107	107
2006	63		24	26				113	113
2005	88		31					119	119
2004	70		27					97	97
2003	74		29					103	103
2002	78		23					101	101
2001	74		22					96	96
2000	73		20					93	93
1999	69		19					88	88
1998	72		18					90	90
1997	72		16					88	88
1996	65		12					77	77
1995	56		18					74	74
1994	53							53	53
1993	55							55	55
1992	53							53	53
1991	50							50	50
1990	53							53	53
sum	**1515**	**9**	**595**	**277**	**35**	**100**	**15**	**2546**	**2431**

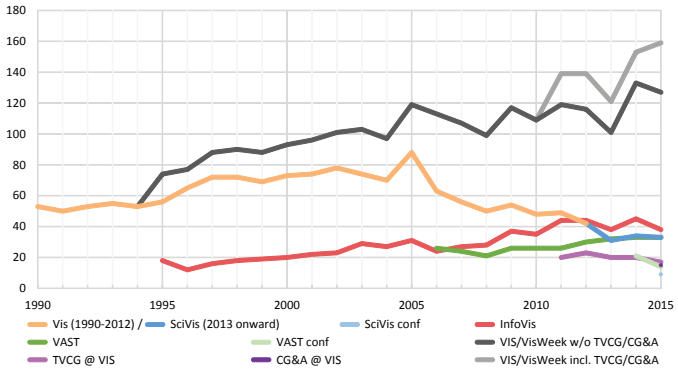

Fig. 2. A visualization of the data from Table 1. The image is from [**?**] and is in the public domain.

5.2.1 Duis Autem

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Confirmed Ejector Seat Reservation Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat [**?**]. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi.

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[1]The algorithm behind Marching Cubes [**?**] had already been described by Wyvill et al. [**?**] a year earlier.

[2]Footnotes appear at the bottom of the column.

6 Conclusion

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Acknowledgments

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References