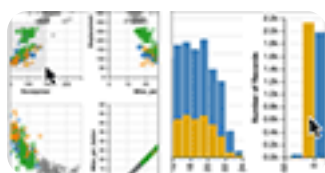# UW Interactive Data Lab VISUALIZATION + ANALYSIS

OUR MISSION is to enhance people's ability to **understand and communicate data** through the design of new **interactive systems** for data visualization and analysis.
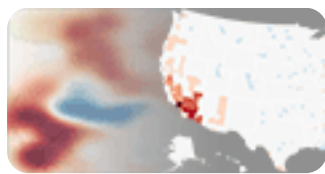

imMens: Visual Querying of Big Data

RECENT PUBLICATIONS (VIEW ALL PAPERS)

VIS 2016 - Baltimore, MD

Vega-Lite: A Grammar of Interactive Graphics Arvind Satyanarayan, Dominik Moritz, Kanit Wongsuphasawat, Jeffrey Heer *IEEE Trans. Visualization & Comp. Graphics (Proc. InfoVis)*, 2017
PDF | Video | **Best Paper Award**

Surprise! Bayesian Weighting for De-Biasing Thematic Maps Michael Correll, Jeffrey Heer *IEEE Trans. Visualization & Comp. Graphics (Proc. InfoVis)*, 2017
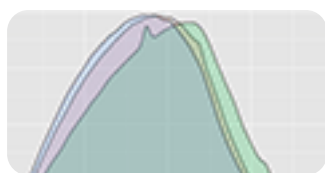PDF | Software

SIGMOD 2016 - San Francisco, CA

Towards A General-Purpose Query Language for Visualization Recommendation Kanit Wongsuphasawat, Dominik Moritz, Anushka Anand, Jock Mackinlay, Bill Howe, Jeffrey Heer *ACM SIGMOD Human-in-the-Loop Data Analysis (HILDA)*, 2016
PDF

EuroVis 2016 - Groningen, Netherlands

Visual Debugging Techniques for Reactive Data Visualization Jane Hoffswell, Arvind Satyanarayan, Jeffrey Heer *Computer Graphics Forum (Proc. EuroVis)*, 2016
PDF

CHI 2016 - San Jose, CA

Snap Decisions? How Users, Content, and Aesthetics Interact to Shape Photo Sharing Behaviors Sanjay Kairam, Jofish Kaye, John Guerra-Gomez, David A. Shamma *ACM Human Factors in Computing Systems (CHI)*, 2016
PDF

Generating Personalized Spatial Analogies for Distances and Areas Yea-Seul Kim, Jessica Hullman, Maneesh Agrawala *ACM Human Factors in Computing Systems (CHI)*, 2016
PDF | Supplement

When(ish) is My Bus? User-centered Visualizations of

UPDATES

05 Aug 2016
New papers at InfoVis 2016: **Vega-Lite** and **Surprise** Maps.

17 May 2016
Watch **Arvind** and **Jessica** present at **OpenVis Conf 2016**.

17 Dec 2015
We started an **IDL blog**!

30 Oct 2015
Our **re-analysis of correlation perception data** won a best paper honorable mention at InfoVis 2015!

12 Aug 2015
Three new papers at **VIS 2015**!

01 Jun 2015
Watch Jeff's keynote talks at **Strata** and **OpenVis Conf**.

14 Jan 2015
Diana's **analysis of addiction recovery in online forums** was selected as a Best Paper Honorable Mention at CSCW!

COURSES

Graduate
CSE510: Topics in HCI
CSE512: Data Visualization
CSE544: Database Systems
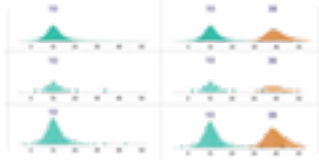CSE546: Machine Learning
CSE547: ML for Big Data

Undergraduate
CSE440: Intro to HCI
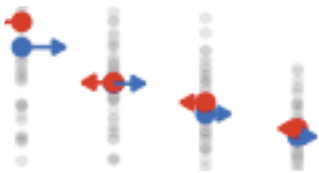CSE441: Advanced HCI
CSE444: Database Systems

Uncertainty in Everyday, Mobile Predictive Systems Matthew Kay, Tara Kola, Jessica Hullman, Sean Munson *ACM Human Factors in Computing Systems (CHI)*, 2016
PDF | Supplement

VIS 2015 - Chicago, IL

Voyager: Exploratory Analysis via Faceted Browsing of Visualization Recommendations Kanit Wongsuphasawat, Dominik Moritz, Anushka Anand, Jock Mackinlay, Bill Howe, Jeffrey Heer *IEEE Trans. Visualization & Comp. Graphics (Proc. InfoVis)*, 2016
PDF | Video | Software | Application

Beyond Weber's Law: A Second Look at Ranking Visualizations of Correlation Matthew Kay, Jeffrey Heer *IEEE Trans. Visualization & Comp. Graphics (Proc. InfoVis)*, 2016
PDF | Software | **Best Paper Honorable Mention**

Reactive Vega: A Streaming Dataflow Architecture for Declarative Interactive Visualization Arvind Satyanarayan, Ryan Russell, Jane Hoffswell, Jeffrey Heer *IEEE Trans. Visualization & Comp. Graphics (Proc. InfoVis)*, 2016
PDF | Software

NAACL-HLT 2015 - Denver, CO

TopicCheck: Interactive Alignment for Assessing Topic Model Stability Jason Chuang, Margaret E. Roberts, Brandon M. Stewart, Rebecca Weiss, Dustin Tingley, Justin Grimmer, Jeffrey Heer *NAACL-HLT*, 2015
PDF

EuroVis 2015 - Cagliari, Sardinia

Perfopticon: Visual Query Analysis for Distributed Databases Dominik Moritz, Daniel Halperin, Bill Howe, Jeffrey Heer *Computer Graphics Forum (Proc. EuroVis)*, 34(3), 2015
PDF | Video

Refinery: Visual Exploration of Large, Heterogeneous Networks through Associative Browsing Sanjay Kairam, Nathalie Henry Riche, Steven Drucker, Roland Fernandez, Jeffrey Heer *Computer Graphics Forum (Proc. EuroVis)*, 34(3), 2015
PDF

CSCW 2015 - Vancouver, Canada

Forum77: An Analysis of an Online Health Forum Dedicated to Addiction Recovery Diana MacLean, Sonal Gupta, Anna Lembke, Christopher D. Manning, Jeffrey Heer *ACM Computer-Supported Cooperative Work (CSCW)*, 2015
PDF | **Best Paper Honorable Mention**

Content, Context, and Critique: Commenting on a Data Visualization Blog Jessica Hullman, Nicholas Diakopoulos, Elaheh Momeni Roochi, Eytan Adar *ACM Computer-Supported Cooperative Work (CSCW)*, 2015
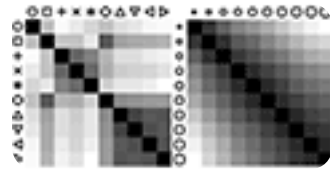PDF

CIDR 2015 - Asilomar, CA

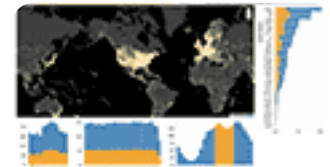**Predictive Interaction for Data Transformation** Jeffrey Heer,

Joseph Hellerstein, Sean Kandel *Conference on Innovative Data Systems Research (CIDR)*, 2015
PDF

VIS 2014 - Paris, France

Learning Perceptual Kernels for Visualization Design Çağatay Demiralp, Michael Bernstein, Jeffrey Heer *IEEE Trans. Visualization & Comp. Graphics (Proc. InfoVis)*, 2014
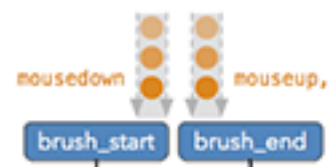PDF | Supplement | Software

The Effects of Interactive Latency on Exploratory Visual Analysis Zhicheng Liu, Jeffrey Heer *IEEE Trans. Visualization & Comp. Graphics (Proc. InfoVis)*, 2014
PDF

EMNLP 2014 - Doha, Qatar

Human Effort and Machine Learnability in Computer Aided Translation Spence Green, Sida Wang, Jason Chuang, Jeffrey Heer, Sebastian Schuster, Christopher D. Manning *Empirical Methods in Natural Language Processing*, 2014
PDF

UIST 2014 - Honolulu, HI

Declarative Interaction Design for Data Visualization Arvind Satyanarayan, Kanit Wongsuphasawat, Jeffrey Heer *ACM User Interface Software & Technology (UIST)*, 2014
PDF | Supplement | Video

Predictive Translation Memory: A Mixed-Initiative System for Human Language Translation Spence Green, Jason Chuang, Jeffrey Heer, Christopher D. Manning *ACM User Interface Software & Technology (UIST)*, 2014
PDF | Video

EuroVis 2014 - Swansea, Wales

Lyra: An Interactive Visualization Design Environment Arvind Satyanarayan, Jeffrey Heer *Computer Graphics Forum (Proc. EuroVis)*, 2014
PDF | Supplement | Application | Software | Video

Authoring Narrative Visualizations with Ellipsis Arvind Satyanarayan, Jeffrey Heer *Computer Graphics Forum (Proc. EuroVis)*, 2014
PDF | Supplement | Application | Software | Video