

# Danielle Albers

University of Wisconsin-Madison

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## Research Interests

Data Visualization  
Graphic Design  
Perceptual Science

Computer Graphics and Vision  
Human-Computer Interaction  
Machine Learning and Data Mining

## Education

**PhD in Computer Science**, *University of Wisconsin-Madison*.

- 2009 – 2015 (Projected)
- Studying computer graphics and visualization under Professor Michael Gleicher.
  - Conducting research on perceptually-motivated design for scalable data visualization.
  - Minor studies in Perceptual Psychology and Art History.
  - GPA: 3.82/4.00.

- 2009 – 2011 **Masters of Science in Computer Science**, *University of Wisconsin-Madison*.
- GPA: 3.77/4.00.

- 2007 – 2009 **Bachelors of Science in Computer Science**, *University of Washington*.
- NASA Space Grant Scholar and four-time Dean's List Member.
  - Graduated with a Bachelors of Science at age 20.
  - Minor in Mathematics.
  - GPA: 3.60/4.00.

## Experience

### Academia

- 2010 – Present **Graduate Researcher**, *Department of Computer Sciences*, University of Wisconsin-Madison.
- Conducting research on visualization with applications in computational biology and the humanities under a program sponsored by the Department of Energy.
  - Research focuses include designing perceptually-motivated scalable visualization techniques for scientific analysis and characterizing visual comparisons over complex datasets.
  - Collaborating with researchers across multiple countries and disciplines to discover and apply novel findings integrating perception, visualization, and domain science.
- Autumn 2009 **Teaching Assistant**, *Human-Computer Interaction*, University of Wisconsin-Madison.
- Assisted students with concepts from the first graduate-level course offered by the University introducing the principles of human-computer interaction and general research skills.
  - Helped grade assignments and assisted with general course administration.
- Autumn 2009 **Laboratory Instructor**, *Introduction to Programming*, University of Wisconsin-Madison.
- Supervised semester-long hands-on programming sessions for an introductory programming course.
  - Worked one-on-one with students to enforce course concepts in weekly consulting hours.

### Industry

- Fall 2013 **Research Intern**, *Tableau Software*, Menlo Park, CA.
- Worked with Vidya Setlur and Maureen Stone investigating multiple aspects of color in visualization.
  - Investigated interactions of color, task, and data in existing visualization approaches.
  - Conducted a series of internal and external experiments gauging perceptual effects of color appearance as pertains to information visualization contexts.

- Summer 2012 **Software Development Intern, Google, Madison, WI.**
- Designed and implemented a novel web-based data storage and analytics platform prototype leveraging cutting-edge cloud technologies.
  - Worked with developers at several domestic and international offices to interface multiple computational and storage platforms.
  - Developed a working knowledge of web development best practices and MapReduce-based analysis techniques to help handle data at massive scales.
- Summer 2009 **Software Development Intern, Boston Scientific, CRM, Redmond, WA.**
- Designed an application to derive automated testing suites from XML requirement files for complete parameter-based testing of Class 3 medical devices.
  - Worked in an Agile development environment to implement the above tool for automated testing generation using Python.
  - Communicated with employees at off-site locations in order to design a thorough and complete testing paradigm capable of delivering quality output content and structure.
- 2008 – 2009 **Software Development Intern, Apptio, Bellevue, WA.**
- Served as an intern for a leading software-as-a-service company founded by one of Seattle's most successful serial entrepreneurs.
  - Analyzed software for debugging and development using Java and GWT for product development.

## Other Experience

- 2008 – 2009 **Mathematics and English Instructional Assistant, Kumon of Redmond, Redmond, WA**
- 2005 – 2009 **Ice Hockey Official, Cascade Hockey Officiating Association, Seattle, WA**
- 2008 – 2009 **Ice Hockey Official, Puget Sound Hockey Officials Association, Seattle, WA**

## Service

- 2014 **Program Committee Member, BioVis: Symposium on Biological Data Visualization**
- 2014 **Reviewer / Subreviewer, IEEE Information Visualization**
- 2013 **Reviewer / Subreviewer, IEEE Information Visualization**
- 2013 **Reviewer / Subreviewer, BioVis: Symposium on Biological Data Visualization**

## Volunteer Positions

- 2012 – Present **Visualization Reading Group Coordinator, University of Wisconsin-Madison, Madison, WI.**
- 2010 – Present **ACM-W Graduate Mentor, Department of Computer Sciences, University of Wisconsin-Madison, Madison, WI.**
- 2009 – Present **Web Manager, University of Wisconsin-Madison Women's Hockey Club, Madison, WI.**
- 2011 – 2012 **Assistant Practice Coach, Wisconsin Timberwolves Special Needs Hockey Team, Madison, WI.**
- April 2010 **GRE Tutor, University of Wisconsin-Madison, Madison, WI.**
- October 2009 **Majors Fair Representative, Department of Computer Sciences, University of Wisconsin-Madison, Madison, WI.**
- May 2009 **Department Guide, Department of Computer Sciences, University of Washington, Seattle, WA.**
- 2007 – 2008 **Ice Hockey Officiating Mentor, Cascade Hockey Officiating Association, Seattle, WA.**

## Publications

### Journal Publications

- Danielle Albers**, Michael Correll, and Michael Gleicher. "Task-Driven Evaluation of Aggregation in Time Series Visualization." *CHI '14: Proceedings of the 2014 Annual Conference on Human Factors in Computing Systems*, September 2014 (to appear).
- Alper Sarikaya, **Danielle Albers**, Julie Mitchell, and Michael Gleicher. "Visualizing Validation of Protein Surface Classifiers." *Eurographics Conference on Visualization (EuroVis) 2014*, June 2014 (to appear).
- Michael Correll, **Danielle Albers**, Steve Franconeri, and Michael Gleicher. "Comparing Averages in Time Series Data." *CHI '12: Proceedings of the 2012 Annual Conference on Human Factors in Computing Systems*, September 2012.

**Danielle Albers**, Colin Dewey, and Michael Gleicher. "Sequence Surveyor: Leveraging Overview for Scalable Genomic Alignment Visualization." *Proceedings of IEEE Information Visualization, IEEE Transactions of Visualization and Computer Graphics*, 17(5), October 2011.

Michael Gleicher, **Danielle Albers**, Rick Walker, Ilir Jusufi, Charles Hansen, and Jonathan Roberts. "Visual Comparison for Information Visualization." *Information Visualization*, 10(4), October 2011.

## Workshops

**Danielle Albers**. "Perceptually Informed Scalable Sequence Comparison." *IEEE VIS Doctoral Colloquium*, October 2013.

**Danielle Albers** and Michael Gleicher. "Seeing Double: Crowdsourced Models of Color Discrimination." *Midgraph*, December 2012.

## Refereed Abstracts

**Danielle Albers**, Michael Correll, Michael Gleicher, and Steve Franconeri. "Ensemble Processing of Color and Shape: Beyond Mean Judgments." *Journal of Vision*, May 2014 (to appear).

**Danielle Albers**, Alper Sarikaya, and Michael Gleicher. "Lightness Constancy in Surface Visualization." *Poster Abstracts of IEEE VIS 2013*, October 2013. **[Best Poster Award]**

Alper Sarikaya, **Danielle Albers**, and Michael Gleicher. "Understanding Performance of Protein Structural Classifiers." *Poster Abstracts of IEEE VIS 2013*, October 2013.

**Danielle Albers**, Colin Dewey, and Michael Gleicher. "Sequence Surveyor: Leveraging Overview for Large-Scale Genomic Alignment Visualization." *2011 VizBi: Visualizing Biological Data Poster Session*, March 2011.

**Danielle Albers** and Michael Gleicher. "Poster: Perceptual Principles for Scalable Sequence Alignment Visualization." *2010 IEEE Information Visualization Poster Proceedings*, October 2010.

**Danielle Albers** and Michael Gleicher. "Perceptual Principles for Scalable Sequence Alignment Visualization." *Proceedings of the 7th Symposium on Applied Perception in Graphics and Visualization*, August 2010.

## Computing Skills

Programming Languages:	Java, Python, JavaScript, C#, C++, C, SQL, ActionScript, XML, HTML, PHP, Ruby, Haskell, Scheme	Operating Systems:	Linux, Windows, Mac OS X
		Scientific Languages:	JMP, Matlab, R

## Professional and Academic Memberships

ACM Student Member  
IEEE Student Member

Sigma Alpha Lambda Honor Society Member  
Phi Theta Kappa International Honor Society Member

## Honors and Awards

Best Poster, IEEE SciVis 2013  
BACTER Research Fellow  
NASA Space Grant Scholar

Invited Participant, IEEE VIS Doctoral Colloquium 2013  
Four-time University of Washington Dean's List member