

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 – 2014 (Projected) - Studying computer graphics and visualization under Professor Michael Gleicher.
- Conducting research on perceptually-motivated design for scalable data visualization.
- GPA: 3.84/4.00.

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

- GPA: 3.77/4.00.

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**, *BACTER Research Program*, University of Wisconsin-Madison.
 - Conducting research in visualization and computational biology 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 2010 **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 2010 **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

- 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.

Volunteer Positions

- 2010 – Present **ACM-W Graduate Mentor**, *Department of Computer Sciences, University of Wisconsin-Madison*, Madison, WI.
- 2011 – Present **Assistant Coach**, *Wisconsin Timberwolves Special Needs Hockey Team*, Madison, WI.
- 2009 – Present **Web Manager**, *University of Wisconsin-Madison Women's Hockey Club*, 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

Michael Gleicher and **Danielle Albers**. "Visual Comparison: Taxonomies and Tradeoffs." *Computer Graphics Forum*, 2012. (In review).

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*, 2012. (In press).

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.

Refereed Abstracts

Danielle Albers 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

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

Professional and Academic Memberships

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| ACM Student Member | Sigma Alpha Lambda Honor Society Member |
| IEEE Student Member | Phi Theta Kappa International Honor Society Member |

Honors and Awards

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| BACTER Research Fellow | Graduated with a Bachelors of Science at age 20 |
| NASA Space Grant Scholar | Four-time University of Washington Dean's List member |