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

2009 – 2015 (Projected)
PhD in Computer Science, *University of Wisconsin-Madison*.
- 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

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

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 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

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.

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

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

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:	Matlab, Maple, 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

BACTER Research Fellow
NASA Space Grant Scholar
Four-time University of Washington Dean's List member
Best Poster for IEEE VIS SciVis, 2013
Invited Participant, IEEE VIS Doctoral Colloquium 2013