Eric Alexander

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Research Interests

Data Visualization

Natural Language Processing

Digital Humanities

Machine Learning

Human-Computer Interaction

Procedural Rhetoric

Education

2012 – 2016 (Projected)   **Ph.D. in Computer Science**, *University of Wisconsin-Madison*.
Dissertation: "Enabling Exploration and Hypothesis Formation within Topic Models"
Thesis Committee: Michael Gleicher (advisor), Mark Craven, Michael Witmore, Mark Vareschi
Minor studies in statistics and media analysis

2010 – 2012   **M.S. in Computer Science**, *University of Wisconsin-Madison*.
GPA: 3.90/4.00

2006 – 2010   **B.A. in Computer Science**, *Carleton College*.
Graduated *magna cum laude*
National Merit Scholarship Recipient
GPA: 3.75/4.00

Publications

Full Papers

Eric Alexander and Michael Gleicher. "Task-Driven Comparison of Topic Models." *IEEE Transactions on Visualization and Computer Graphics*, 22.1 (2016): 320-329.

Eric Alexander, Joe Kohlmann, Robin Valenza, Michael Witmore, and Michael Gleicher. "Serendip: Topic Model-Driven Visual Exploration of Text Corpora." *2014 IEEE Conference on Visual Analytics Science and Technology (VAST)*. IEEE, 2014.

Michael Correll, **Eric Alexander**, and Michael Gleicher. "Quantity Estimation in Visualizations of Tagged Text." *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. ACM, 2013.

Workshop Papers and Poster Abstracts

Michael Correll, **Eric Alexander**, Danielle Albers Szafir, Alper Sarikaya, and Michael Gleicher. "Navigating Reductionism and Holism in Evaluation." *Proceedings of the Fifth Workshop on Beyond Time and Errors: Novel Evaluation Methods for Visualization*. ACM, 2014.

Eric Alexander, Joe Kohlmann, Robin Valenza, and Michael Gleicher. "Serendip: Turning Topics Back to the Text." *IEEE Visualization Poster Proceedings*, 2013.

James Brown and **Eric Alexander**. "Game Design and Computer Programming in the General Education Classroom." *Games, Learning & Society 8.0 Conference Proceedings* (523-524), 2012.

Book Chapter

James Brown and **Eric Alexander**. "Procedural Rhetoric, Proairesis, Game Design, and the Revaluing of Invention." Book chapter in *Play/Write: Games, Writing, and Digital Rhetoric*. Parlor Press. (Forthcoming.)

Invited Talks

"Multi-level Exploration of Topic Models." *Early Modern Digital Agendas (EMDA)*. Folger Shakespeare Library, Washington D.C. July 24, 2015.

"Serendip: A Tool for Topic Modeling of EEBO-TCP Texts." *Chicago Colloquium on Digital Humanities and Computer Science 2014.* Evanston, IL. November 23, 2014.

"Visualizing Print." Digital Humanities Lecture at Bridgewater State University, Bridgewater, MA. September 17, 2013.

"Topic Model Visualization and Serendip ." *Early Modern Digital Agendas (EMDA)*. Folger Shakespeare Library, Washington D.C. July 22, 2013.

"Visualizing Topic Models over Large Scale Corpora." Carleton College CS Department, Northfield, MN. May 9, 2013.

Teaching Experience

Computer Science

Winter 2014	**Visiting Instructor**, *CS 202: Mathematics of Computer Science*, Carleton College. Taught course on discrete mathematics intended for computer science majors.
Winter 2014	**Visiting Instructor**, *CS 111: Introduction to Computer Science*, Carleton College. Taught course introducing students to computation and programming (in Python).
Summer 2011	**Lecturer**, *CS 367: Data Structures*, University of Wisconsin-Madison. Taught course introducing students to data structures from linked lists to red-black trees (in Java).
Fall 2015	**Guest Lecturer**, *CS 638: JavaScript and Web Programming*, University of Wisconsin-Madison. Delivered guest lectures on the use of selector-based web programming and CSS.
Spring 2015	**Guest Lecturer**, *CS 638/838: Visualization*, University of Wisconsin-Madison. Delivered guest lecture on the Data-Driven Documents (D3) web visualization library.
Spring 2009	**Prefect**, *CS 201: Data Structures*, Carleton College. Attended classes, led weekly discussion sections, and performed one-on-one tutoring with students.

Digital Media Studies and Writing

Spring 2012	**Teaching Assistant**, *ENG 550: Digital Rhetoric*, University of Wisconsin-Madison. Developed flipped-classroom curriculum for teaching students to program video games in Scratch.
2011 – 2012	**Teaching Assistant**, *ENG 236: Writing & Electronic Literary*, University of Wisconsin-Madison. Developed flipped-classroom curriculum for teaching students to write interactive fiction using Inform7.
2007 – 2010	**Writing Consultant**, *Academic Support Center*, Carleton College. Tutored individual students in writing across multiple academic disciplines.
Spring 2015	**Online Guest Lecturer**, *Shakespeare in Community*, University of Wisconsin-Madison. Delivered guest lecture to MOOC on algorithmic literature analysis as applied to Shakespeare.

Undergraduate Research Mentorship

2015	**Hao Fu**, *Deep Learning of Early-Modern Text using Word2Vec*.
2014	**Andrew Hermus**, *N-gram Based Text Analysis*, (w. Danielle Szafir).
2013	**Joe Kohlmann**, *Dictionary Based Analysis of Tagged Text*.

Research Experience

2012 – Present **Graduate Researcher**, *Department of Computer Sciences*, University of Wisconsin-Madison.
Researching the use of visualization and topic modeling in large-scale text corpora.
Working with Visualizing English Print, an interdisciplinary research group exploring the use of visualization in exploring early modern literature.

2010 – 2011 **Graduate Researcher**, *Laboratory for Optical and Computational Instrumentation*, University of Wisconsin-Madison.
Created software for collecting metadata for laser microscopy.
Performed major refactoring of legacy code.

Industry Experience

Summer 2009 **Intern**, *R & D Department*, Parametric Technology Corporation.
Partitioned, configured, and installed a Hudson continuous integration server.
Integrated Hudson server with Git version control repository.

Summer 2007, 2008 **Intern**, *GPS Program*, Lockheed Martin Space Systems Company.
Created automated system for collecting progress metrics and peer reviews.
Designed, implemented, and maintained webpage for Systems Engineering, Integration, and Test team.

Service

Professional Service

2014 – Present **Digital Humanities Research Network Coordinator**, *University of Wisconsin-Madison*.
Coordinate bi-weekly meetings for working group funded by the Andrew W. Mellon Foundation, bringing together scholars from across campus to discuss ongoing research in the digital humanities.

2014 – Present **Physical Space Manager and Personnel Coordinator**, *UW-Madison Visual Computing Lab*.
Responsible for overseeing physical setup of lab and new member transitions.

2014, 2015 **Reviewer**, *IEEE Information Visualization*.

Volunteer Positions

2013 – Present **Ultimate Frisbee Coach**, Madison, WI.
Currently coaching University of Wisconsin-Madison men's club ultimate team.
Previously coached DeForest High School ultimate team.
Certified by USA Ultimate (sport's governing body).

2004 – 2006 **Math Tutor**, *Germantown After School Program*, Philadelphia, PA.
Tutored math at inner-city Philadelphia high school after school program.

Awards and Grants

2014, 2015 **Andrew W. Mellon Workshop Grant**, *Digital Humanities Research Network (DHRN)*.

2015 **Invited Participant**, *IEEE VIS Doctoral Colloquium*.