

Alon Friedman, PhD

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Associate Professor | School of Information | University of South Florida

EDUCATION:

Long Island University, Palmer School , Brookville, NY	2007
PhD in Information Studies. Special attention to advanced statistics and visualization. Dissertation title: "Concept map as sign: concept mapping in Knowledge Organization through a semiotics lens."	
University of Florida , Gainesville, FL	1994
MA in Mass Media with minor in Statistics	
Bachelor of Advertising Science with special attention to Statistics	1993

ACADEMIC EXPERIENCE

University of South Florida, Tampa, FL	2013 – Present
Associate Professor, School of Information	2018 – Present
Assistant Professor, School of Information	2013 – 2018
Area of research: Visualization education development Teaching: Visual Communication, Introduction to Visualization and Big Data, Introduction to Visual Analytics, Introduction to R Programming, Introduction to Advanced Statistics and Analytics, Introduction to Information Retrieval, Web design technologies.	
St. John's University, Queens, NY	2011 – 2013
Adjunct Professor, College of Professional Studies, Computer Science, Mathematics and Science Department Introduction to Calculus and Advanced Statistics. Taught undergraduate students.	
Long Island University, Brooklyn, NY	2005 – 2012
Adjunct Lecturer, School of Business Introduction to Statistics and Advanced Statistics, Introduction to Management Science, and Management Information Systems; taught both undergraduate and graduate students.	
LIM College, New York, NY	2011 – 2012
Adjunct Professor Introduction to Advanced Statistics. Taught graduate students.	
Seton Hall University, South Orange, NJ	2007 – 2009
Adjunct Professor, School of Diplomacy & International Relations Introduction to Statistics. Taught both graduate and PhD students.	
University at Albany SUNY, Albany, NY	2008 – 2009
Adjunct Professor College of Computing, and Information Introduction Statistics, Introduction to Information Retrieval and Introduction to Knowledge Organization. Taught both undergraduate and graduate students.	
Metropolitan College of New York, New York, NY	2004 – 2007
Adjunct Lecturer School of Business Introduction to Statistics and Introduction to Electronic Commerce. Taught undergraduate students.	
New York City College of Technology, New York, NY	2003 - 2004
Adjunct Lecturer, Computer Science Department Advanced Web and visualization programming: Perl, CGI, JavaScript, XML and ActionScript. Taught undergraduate students.	
Center for Technological Education, Holon, Israel	1997 – 1999
Instructor Introduction to Web medium and theories and technologies. Taught undergraduate and graduate students.	

Graduate Researcher

Designed online classification newspaper prototype. The project was to design a prototype for Sun.ONE, an online system that was the first commercial and educational online system for the local community and the students and faculty of the university. The project was sponsored by the New York Times Company.

PUBLICATIONS

PEER-REVIEWED JOURNALS

Friedman, A. and Thellefsen, M. "Big Data Visualization through the lens of Peirce's visual sign theory." *International Journal of Semiotics* Vol. 8 No. 5 (2022) Special Edition: Big Data and visual semiotics. DOI: [10.18680/hss.2022.0007](https://doi.org/10.18680/hss.2022.0007)

Friedman, A. "Visualizing protein data sets in R through a student peer-review rubric." *Biochemistry and Molecular Biology Education*. Vol. 50, No. 5, (2022). <https://doi.org/10.1002/bmb.21648>

Beasley, Z, Friedman, A. and Rosen, P. "Through the Looking Glass: Insights into Visualization Pedagogy through Sentiment Analysis of Peer Review Text." *IEEE Computer Graphics and Applications* Vol. 41, No. 6 pp. 59-70, (2021). DOI: 10.1109/MCG.2021.3115387 [ERA* Ranking: A]

Friedman, A. "Editorial: Truth and Lies in Visual Literacy Education." *Journal of Visual Literacy* Vol. 40, No. 2, pp. 91-93, (2021). [ERA* Ranking: A]

Friedman, A. "Data and visual displays in the Journal of Ecology 1996–2016." *Information Visualization* Vol. 20, No. 1, (2020). [ERA* Ranking: B]

Friedman, A. "Visual Uncertainty Models Through the Political Lens of the Visual Arts in the Era of Bush and Trump." *Journal of Visual Literacy* Vol. 38, No.4, pp. 324-334, (2019). [ERA* Ranking: A]

Friedman, A. "Toward peer-review software and a rubric application in visual analytics classes: A case study." *Education for Information: Special Issue: Visual Learning*, Vol.35, No. 3, pp.241-249, (2019). IOS Press [ERA* Ranking: B]

Friedman, A. "Digitizing Peircean semiotics to analyze student peer review: classroom use of an application in open-source R." *Social Semiotics* Vol. 38, No. 5, (2018). [ERA* Ranking: B]

Friedman, A. & E. Schneider. "Developing a visualization education curriculum in the age of Big Data using the Dick and Carey model." *Visual Communication Quarterly* Vol. 25, No. 4, (2018). [ERA* Ranking: A]

Friedman, A. & S. Ron. "Unlocking the power of visual grammar theory: Analyzing social media political advertising messages in the 2016 U.S. election" *Journal of Visual Literacy* Vol. 36, No. 1, (2017). [ERA* Ranking: A]

Friedman, A. "Measuring the Promise of Big Data Syllabi." *Technology, Pedagogy and Education* Vol. 26, No. 3, (2017). [ERA* Ranking: B]

Friedman, A. & Bernstein, J. "Measures of greatness: A Lotkaian approach to literary authors using OCLC WorldCat." *Library and Information Science Research*, Vol. 39, No. 3, (2017). [ERA* Ranking: A] (2017)

Friedman, A. & Feichtinger, E. "Peirce's open-source package in R." *Signs: International Journal of Semiotics* Vol. 8, No. 1, (2017).

Friedman, A. "The Power of Lotka's Law Through the Eyes of R." *The Romanian Statistical Review*, Vol. 63, No.(2) pp. 69-79, (2015).

Friedman, A. "The relationship between research methods and visual display: a study of conference proceedings in the field of knowledge organization." *Information Research Journal* Vol. 19, No. 4, (2014). <http://www.informationr.net/ir/19-4/paper651.html#.V4fyxo4eWSX> [ERA* Ranking: B]

Friedman, A. and Smiraglia, R.P "Nodes and Arcs: Concept Map, Semiotics, and Knowledge Organization" *Journal of Documentation* Vol. 69 No. 1 pp. 27-48, (2013). Emerald Group Publishing Limited. [ERA* Ranking: A]

Friedman, A and Thellefsen, M. "Concept Theory and Semiotics in Knowledge Organization" *Journal of Documentation* Vol. 67 No.4 pp. 644-674, (2011). Emerald Group Publishing Limited. [ERA* Ranking: A]

Friedman, A. "The use of concept maps in Knowledge Organization: an analysis of Conference papers." *Knowledge Organization Journal* Vol. 37, No.1, pp. 43-50, (2010). Publisher: Ergon-Verlag [ERA* Ranking: A]

*ERA Ranking is based on the Australian Research Council for Excellence in Research

BOOK

Friedman, A. "Statistics for Library & Information Services: A Primer for Using Open Source R Software for Accessibility and Visualization." (2016) Published by Rowman & Littlefield New York. <http://www.statisticsforlis.org/>

BOOK CHAPTER/ ENCYCLOPEDIA ENTRIES

Friedman, A. "Histograms." *SAGE Encyclopedia of Research, Measurement and Evaluation*. Editor: Frey, B. (2017). DOI: <http://dx.doi.org/10.4135/9781506326139>

Friedman, A. "R (software application)." *SAGE Encyclopedia of Research, Measurement and Evaluation*. (Editor: Frey, B., (2017). DOI: <http://dx.doi.org/10.4135/9781506326139>

Friedman, A. "Semiotics and Knowledge Organization", Chapter 7 in *Cultural Frames of Knowledge*. The International Society for Knowledge Organization (ISKO). Edited by R. Smiraglia and Hur-Li, L. (2012). Ergon Verlag Ltd.

CONFERENCE PAPERS/POSTERS

Beasley, Z, Friedman, A. and Rosen, P. "Through the Looking Glass: Insights into Visualization Pedagogy through Sentiment Analysis of Peer Review Text." Main Speakers *IEEE Vis* conference, Oklahoma City, Oklahoma, 2022.

Williams, C., Noel, L., and A. Friedman. "W.E.B. Du Bois's Visualizations of 21st Century Big Data in R. "useR! Conference, 2022. <https://user2022.r-project.org/>

Friedman, A. "Visualization using RStudio Top 8000's Protein Dataset." Teaching science with Big Data. *The American Society for Biochemistry and Molecular Biology Annual conference*, 2021. Key facilitator speaker.

Friedman, A. "Lombardi drawing in R." *useR!* Conference, St. Louis, MO, 2020. <https://user2020.r-project.org/>

Friedman, A & Beasley, Z. "Peer Review in R." *useR!* Conference, St. Louis, MO, 2020. <https://user2020.r-project.org/>

Beasley, Z., Friedman, A., Piegler, L., & Rosen, P. "Leveraging Peer Feedback to Improve Visualization Education." *IEEE Pacific Visualization Symposium (PacificVis)*, Tianjin, China, 2020. <https://ieeexplore.ieee.org/xpl/conhome/9082508/proceeding>

Amparo, A.P., Smith, G., Friedman, A. "Gender and persistent grade performance differences between online and face to face undergraduate classes." EdMedia+ Innovate Learning. Association for the Advancement of Computing in Education (AACE), Amsterdam, Netherlands., 2018.

Friedman, A. "Teaching R via Peer Review. *useR!* Conference, Brisbane, Australia, 2018. <https://www.r-project.org/conferences/useR-2018/>

Friedman, A. "Visual Peer Review under MyReviewers interface." 5th International Conference on Writing Analytics, 2018. St. Petersburg Beach, FL.

Friedman, A. and Rosen, P. "Visual Peer Review at USF." *Innovations in Pedagogy of Data Visualization workshop at IEEE, Phoenix, AZ, 2017.*

Hayes, J.L., Graybeal, G.M. & Friedman, A. "Branding Social TV: A Social Network Analysis & Content Analysis of Brand Participation in Tweeting The Walking Dead." *American Academy of Advertising Conference*, Boston, MA, 2017.

Friedman, A. "Peirce sign theory in R". The *useR!* Conference, Stanford, CA, 2016. <https://www.r-project.org/conferences/useR-2016/>

Friedman, A. "Lotka's Law in R." *The useR! Conference*, Aalborg, DK, 2015. <https://www.r-project.org/conferences/useR-2015/>

Friedman, A. "Mapping Subjectivity, Dissensus, and Concordance: Visualizing peer review and writing assessment." *Science and Information (SAI) Conference*, London, UK, 2015.

Friedman, A. "The Power of Lotka's Law Through the Eyes of R." *The Third International Conference of New Challenges: For Statistical Software - The Use of R in Official Statistics*. Bucharest, Romania, 2015.

Friedman, A. and Schneider, E. "Learning R: Needs Analysis, Learning Taxonomies, Methodology, and Visualization." *The R User Conference*, Angeles, CA, 2014. <https://www.r-project.org/conferences/useR-2014/>

Friedman, A. "Pinterest through the eyes of public libraries in Florida." *13th International Conference (ISKO)*. Krakow, Poland, 2014,

Friedman, A. "Big Data curriculum in the field of Information Science." *Alise Annual Conference*, Philadelphia, PA, 2014.

Friedman, A. "Error in Big Data through Spectacles Lens." *SPEC-Tech Symposium*, Jerusalem, Israel, 2014.

Friedman, A. "Visual Analytics Theory and Practice: Lessons Learned from a Pioneering Course." *Visual Learning Conference: Emotion – Expression – Explanation*, Budapest University of Technology and Economics. Budapest, Hungary, 2013.

Friedman, A. "Mark Lombardi's visualization discovery." *4th International ADS-VIS2011 Conference*. University of Huddersfield, England, 2011.

Friedman, A. "Concept Map as knowledge and communication tool" *Long Island Philosophical Society (LIPS)* 23(1), Long Island City, NY, 2008.

Friedman, A. "Concept Mapping in Knowledge Organization through a semiotics lens." *3rd International Conference on Concept Mapping (CMC)*, Helsinki, Finland, 2008.

Friedman, A. "Concept mapping through a semiotics lens." *The 33rd Meeting of the Semiotics Society of America*, Conference, Houston, TX, 2008.

Friedman, A. "The perspective of the terms digital and electronic signature." *Connection Conference # 17*, Philadelphia PA, 2007.

Friedman, A. "The examination of validation and soundness in concept mapping in ISKO Conference Proceedings (2000-2002)" *Long Island Philosophical Society (LIPS)* 17(4), Long Island City, NY, 2007.

Friedman, A. "Concept Mapping as measurable sign," *The Ninth International Society for Knowledge Organization (ISKO) Conference Vol. (10) pp. 131-140.*, 2006.

Friedman, A. "Austin and Instant messaging," *Long Island Philosophical Society LIPS* 16(3), Long Island City, NY, 2003.

PRESENTATIONS & COLLOQUIUMS

"Visualization of Information Retrieval." University of Copenhagen, Aalborg Denmark. June 30, 2015
"What can we learn from Peer Reviews & Big Data Paradigm?" *IDSC Seminar*, University of South Florida. 2015
"The Power of Data Visualization with R." University of South Florida, Muma College of Business IdeAlytics Fest 2015. April 2, 2015
"R and Visualization." University of South Florida, School of Engineering Analytics Class. Sept. 19, 2014
"Visualization and the Power of R." *Big Data and Writing Studies Colloquium*. University of South Florida, English Department. <http://toolsforwriters.com/program/> 2014
"Knowledge organization through the eyes of visualization." University of Haifa, Israel, Sagy Center for Internet Search and the Department of Library Science. May 9, 2013

GRANTS FUNDED

External

NSF Division of Undergraduate Education and Data Science. "Using Behavioral Nudges in Peer Review to Improve Critical Analysis in STEM Courses" (PI; Funded amount): \$297,604 2022 – 2025

Internal

Paid Sabbatical leave Fall semester 2022
NSF CMMI CAREER proposal, USF (PI; Funded \$1000) 2018
Development of Visual Peer Review." USF Research & Innovation (PI; Funded: \$3,000) Summer 2017
Developing Visual Literacy curriculum for undergraduate USF. USF Academy for Teaching and Learning Excellence (ATLE) (PI; Funded \$1000) 2017
Travel for NSF Writing Proposal Workshop (PI; Funded \$700) 2017

SERVICE

Departmental, College and University

USF School of Information: Undergraduate Curriculum Committee 2021– 2022
USF Provost Office: Aspire Implementation Team 2021– 2022
USF School of Information: Tenure & Promotion Committee 2020– 2021
USF School of Information: Undergraduate studies Committee 2016 –2018
USF School of Information: Admissions, Standards, and Honors Committee 2016 - 2017
USF Mass Communication Department: Search committee for new chair Committee 2016 - 2017
USF School of Information: Search committee for new faculty Committee 2015 - 2016
USF School of Information: Admissions, Standards, and Honors committee 2015– 2017
USF Provost Office: Data Science Curriculum Committee 2014 - 2015
USF School of Information: Undergraduate curriculum Committee 2014– 2019
USF School of Information: Faculty Affairs Committee 2014– 2018
USF School of Information: Search Committee 2013 - 2014
USF School of Information: Curriculum Committee 2013 - 2014
USF Big Data Tools Colloquium: Tools for writers. Colloquium committee 2013– 2014
LIM Graduate school: Technology Committee 2009
LIM 2009 College Senior Juror 2009

STUDENTS ADVISED

Ph.D. Students – Major/External Advisor

- Zach J. Beasley: Sentiment Analysis in Peer Review. Computer Science & Engineering. 2020.
- Richardson, Jason, External advisor. Department of Integrative Biology. 2018
- Erin Feichtinger: Gendered Recreational Fisheries Management and North American Natural Resource Policy. Department of Integrative Biology. 2017.

Professional / External

Editorial

Guest Special Edition Editor for Journal of Visual Literacy, Volume 40(2) (2021). 2020-2021
"Truth and Lies in Visual Literacy Education." *Journal of Visual Literacy* 40(2) 91-93,2021.

Peer Reviewer

Frontiers Research Metrics 2022
Journal of Documentation 2015-2022
Journal of Information Visualization 2018-2022
Journal of Online Information Review 2020-2021
Journal of Big Data 2016-2019
Journal of Open-Source Statistical Software 2016
Knowledge Organization Journal 2015-2017
The Journal of Library Collections, Acquisitions, and Technical Services 2015-2016
SIG USE Best Poster/Paper Awards Jury 2015
Journal of the American Society for Information Science and Technology 2012

PROFESSIONAL AFFILIATIONS

International Visual Literacy Association 2020 – Present
IEEE Vis Member 2015 – Present
The R Foundation 2013 – Present
The Semiotics Society of America 2008 – Present
Association for Information Science and Technology 2013 – 2015
The Institute for Human and Machine Cognition (IHMC) 2006 – 2015
The Knowledge Organization Association 2002 – 2015

SOFTWARE DEVELOPMENT

2017 Visual Peer Review Dashboard
2016 Peer Review via open-source R
2014 Lotka's package, open-source R package.
2000 Visual email client and server side
1998 Zapa 3D Animated Characters

PROFESSIONAL EXPERIENCE

VisualAlpha.Com, New York, NY 2010 - 2013

Data and Visualization/Infographics Analyst

VisualAlpha is a data insight research company that specializes in the transformation of market research data to customized visualization reports. Clients: New York City Health and Hospitals Corporation HHC, Solution Inc., General Motors Research Lab Inc.

Smart Data Consulting, New York, NY 2009

A start-up company analyzing legal documents of government and corporate entities.

Statistical and Programmer Analyst

Developed statistical reports based on Lexis Nexis Law Pre-Discovery Software. The analysis involved metadata and record discovery from Client SQL Server.

CeuticalSoft, Hudson, NY 2009

A start-up company providing custom solutions for life science companies.

Senior Application Scientist

Developed life science software over web services (AWS). Technologies: Excel, VBA, JavaScript, Webservices, Open Source and Windows Server 2008. Recommended to employ Agile methodologies to ensure rapid iterative software development. The company closed on 09/30/2009.

Imagine Inc., Tel Aviv, Israel 2001

A start-up company customized technology solutions for corporations.

Web Architect and Head of GUI programming

Responsible for building live customer support call centers over the web and IP. In charge of the product design and programming on the Web supervising a staff of six programmers and designers. The company closed on 01/01/2002.

eNvelopes.com Inc., Ranana, Israel 2000

A start-up company providing advertising technology solutions for corporations.

Head of the Web and Design Department

Specialized in building email client and server. In charge of the company web client email application, the company's database and client's security side. The company closed 12/28/2000.

iWeb Inc., Ranana, Israel 1999

A start-up company: email client and server for Internet users.

Team Leader and Database Developer

Created Java and JavaScript web pages to support and maintain the iNotes product. The company closed 11/28/1999.

Zapa Digital Arts Inc., Tel Aviv, Israel 1998

A start-up company: 3D animation for Internet users.

Head of GUI application programming

In charge of Zapa's front end application development with ActiveX components.

Haaretz Newspaper Online, Tel Aviv, Israel 1996-1997

Established the first Israeli online newspaper. Main responsibility was to accommodate the American audience.

COMPUTER SKILLS

Statistics and worksheets:	R, SPSS, Excel, SAS, Quarto Pro, Lotus 1-2-3, Minitab, WINKS 4.65, and Processing
Adobe tools:	Illustrator, Photoshop, Image-Ready, Premiere and After Effects, Dreamweaver, Flash (Flash script), Director (Lingo script), Fireworks, Freehand and Generator
Programming Languages:	R, Python, C++, XML, PHP, CGI, Cold Fusion, ASP, JavaScript, JSP, VB Net, ADO Net and WML
Database:	Oracle8, Sybase, MySQL, SQL Server and DB2
Metadata Schemes:	ERIC, OPAC, Dublin Core and MARC
Data Models:	UML, VEO, OMG and SysML
Servers:	Linux, Windows IIS, Windows2000 & Professional, UNIX and Fasttrack server