

David H. Gotz, PhD

Associate Professor, Information Science
Director, Visual Analysis and Communication Lab
Assistant Director, Carolina Health Informatics Program
Associate Member, Lineberger Comprehensive Cancer Center
University of North Carolina at Chapel Hill
School of Information and Library Science
201 Manning Hall, CB #3360
Chapel Hill, NC 27599

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CURRENT APPOINTMENTS

School of Information and Library Science at the University of North Carolina at Chapel Hill
Associate Professor, Information Science
2014 – Present

The Carolina Health Informatics Program at the University of North Carolina at Chapel Hill
Assistant Director
2014 – Present

University of North Carolina Lineberger Comprehensive Cancer Center
Associate Member
2014 – Present

EDUCATION

University of North Carolina at Chapel Hill
Ph.D. in Computer Science, 2005
Dissertation Title: Scalable and Adaptive Streaming for Non-Linear Media
M.S. in Computer Science, 2001

Georgia Institute of Technology
B.S. in Computer Science, 1999, with Highest Honors
Certificate in Economics, 1999

PROFESSIONAL EXPERIENCE PRIOR TO CURRENT APPOINTMENT

T. J. Watson Research Center at IBM Research
Research Scientist
2006 - 2013

T. J. Watson Research Center at IBM Research
Post-Doctoral Research Scientist
2005 – 2006

UNC-Chapel Hill Computer Science Department, Multimedia Research Group
Research Assistant
2001 – 2005

Bell Labs, Multimedia Communications Research Lab
Research Intern
Summer 2001

UNC-Chapel Hill Computer Science Department, Office of the Future Group
Research Assistant
1999 – 2001

Naval Research Labs, Virtual Reality Lab
Research Intern
Summer 1999

Bell Labs, Multimedia Communications Research Lab
Research Intern
Summer 1998

Georgia Institute of Technology, Virtual Environments Group
Undergraduate Research Assistant
1997 – 1999

Bell Communications Research
Intern
Summers 1995, 1996, 1997

HONORS

- 2017 ACM Computing Reviews “Best of Computing” honoree (for 2016 ACM IUI paper)
- 2016 ACM IUI paper was recognized with the ACM IUI Best Paper Award
- 2015 Named a Data Fellow by National Consortium for Data Science
- 2013 IBM Research Accomplishment Award received for the scientific and commercial impact of medical informatics research (*for new research not previously recognized in 2012*)
- 2012 IBM Research Accomplishment Award received for the scientific and commercial impact of medical informatics research
- 2010 AMIA paper selected as a Distinguished Paper Award nominee
- 2008 IEEE VAST paper awarded as a top paper via selection for journal publication
- 2006 ACM Multimedia paper awarded as a top paper via selection for journal publication

BIBLIOGRAPHY

PEER REVIEWED JOURNAL & HIGHLY SELECTIVE CONFERENCE¹ ARTICLES

1. Shunan Guo, Ke Xu, Rongwen Zhao, **David Gotz**, Hongyuan Zha, and Nan Cao. EventThread: Visual Summarization and Stage Analysis of Event Sequence Data. *IEEE Transactions on Visualization and Computer Graphics (In press)*.

¹ In the Computer Science literature, conference proceedings are highly selective, and typically as prestigious (if not more prestigious) than journals. As a result, highly-selective conferences are generally considered the most respected types of publication within this community.

2. **David Gotz**, Shun Sun, Nan Cao, Rita Kundu, Anne-Marie Meyer. Adaptive Contextualization Methods for Combating Selection Bias During High-Dimensional Visualization. *ACM Transactions on Interactive Intelligent Systems (In Press)*.
3. Chanin T. Woods, Lela Lackey, Benfeard Williams, Nikolay V. Dokholyan, **David Gotz**, and Alain Laedearch. Comparative visualization of the RNA suboptimal conformational ensemble in vivo. *Biophysical Journal (Published online on June 15, 2017. To appear in print.)*.
4. Hanfei Lin, Siyuan Gao, **David Gotz**, Fan Du, Jingrui He, and Nan Cao. RCLens: Interactive Rare Category Exploration and Identification. *IEEE Transactions on Visualization and Computer Graphics (Published online on June 6, 2017. To appear in print.)*.
5. Nan Cao Yu-Ru Lin, **David Gotz**, Fan Du. Z-Glyph: Visualizing Outliers in Multivariate Data. *Information Visualization (Published "Online First" February 14, 2017)*.
6. Yingcai Wu, Nan Cao. **David Gotz**, Yap-Peng Tan, Daniel Keim. A Survey on Visual Analytics of Social Media Data. *IEEE Transactions on Multimedia (Volume 18, Issue 11, 2016)*.
7. Nan Cao. Yingcai Wu, **David Gotz**, Daniel Keim, Yap-Peng Tan. Guest Editorial: Visual Analytics in Multimedia—Opportunities and Research Challenges. *IEEE Transactions on Multimedia (Volume 18, Issue 11, 2016)*.
8. **David Gotz** and David Borland. Data-Driven Healthcare: Challenges and Opportunities for Interactive Visualization. *IEEE Computer Graphics and Applications (Volume 36, Issue 2, pp. 90 – 96, 2016)*.
9. **David Gotz**, Shun Sun, and Nan Cao. Adaptive Contextualization: Combating Bias During High-Dimensional Visualization and Data Selection. *Proceedings of the ACM International Conference on Intelligent User Interfaces (pp. 85 – 95, 2016), Sonoma, California*.
10. Nan Cao, Yu-Ru Lin, and **David Gotz**. UnTangle Map: Visual Analysis of Probabilistic Multi-Label Data. *IEEE Transactions on Visualization and Computer Graphics (Volume 22, Issue 2, pp. 1149 – 1163, 2016)*.
11. Zhiyuan Zhang, **David Gotz**, and Adam Perer. Iterative Cohort Analysis and Exploration. *Information Visualization (Volume 14, Number 4, pp. 289 – 307, 2015)*.
12. Jesus Caban and **David Gotz**. Visual Analytics in Healthcare – Opportunities and Research Challenges. *Journal of the American Medical Informatics Association (JAMIA) (Volume 22, Issue 2, pp. 260 – 262, 2015)*.
13. **David Gotz** and Harry Stavropoulos. DecisionFlow: Visual Analytics for High-Dimensional Temporal Event Sequence Data. *IEEE Transactions on Visualization and Computer Graphics (Volume 20, Issue 12, pp. 1783 – 1792, 2014)*.
14. Charles D. Stolper, Adam Perer, and **David Gotz**. Progressive Visual Analytics. *IEEE Transactions on Visualization and Computer Graphics (Volume 20, Issue 12, pp. 1653 – 1662, 2014)*.
15. Yu-Ru Lin, Nan Cao, **David Gotz** and Lu Lu. UnTangle: Visual Mining for Data with Uncertain Multi-Labels Via Triangle Map. *Proceedings of the IEEE International Conference on Data Mining (pp. 340 – 349, 2014). Shenzhen, China*.

16. **David Gotz**, Fei Wang, and Adam Perer. A Methodology for Interactive Mining and Visual Analysis of Clinical Event Patterns Using Electronic Health Record Data. *The Journal of Biomedical Informatics* (Volume 48, pp. 148 – 159, 2014).
17. **David Gotz** and Krist Wongsuphasawat. Interactive Intervention Analysis. *Proceedings of the American Medical Informatics Association (AMIA) Annual Symposium* (pp. 274 – 280, 2012), Chicago, Illinois.
18. **David Gotz**, Harry Stavropoulos Jimeng Sun, and Fei Wang. ICDA: A Platform for Intelligent Care Delivery Analytics. *Proceedings of the American Medical Informatics Association (AMIA) Annual Symposium* (pp. 264 – 273, 2012), Chicago, Illinois.
19. Krist Wongsuphasawat and **David Gotz**. Exploring Flow, Factors, and Outcomes of Temporal Event Sequences with the Outflow Visualization. *IEEE Transactions on Visualization and Computer Graphics* (Volume 57, Number 5, pp. 2659 – 2668, 2012).
20. **David Gotz**, Jimeng Sun, Nan Cao. Multifaceted Visual Analytics for Healthcare Applications. *IBM Journal of Research and Development* (Volume 56, Number 5, pp. 492 – 503, 2012).
21. Nan Cao, **David Gotz**, Jimeng Sun, Yu-Ru Lin, and Huamin Qu. SolarMap: Multifaceted Visual Analytics for Topic Exploration. *Proceedings of the IEEE International Conference on Data Mining* (pp. 101 – 110, 2011), Vancouver, Canada.
22. **David Gotz**, Jimeng Sun, Nan Cao, and Shahram Ebadollahi. Visual Cluster Analysis in Support of Clinical Decision Intelligence. *Proceedings of the American Medical Informatics Association (AMIA) Annual Symposium* (pp. 481 – 490, 2011), Washington, DC.
23. Joseph Bigus, Murray Campbell, Boaz Carmeli, Melissa Cefkin, Henry Chang, Ching-Hua Chen-Ritzo, William Cody, Shahram Ebadollahi, Alexandre Evmievski, Ariel Farkash, Susanne Glissmann, **David Gotz**, Tyrone Grandison, Daniel Gruhl, Peter Haas, Mark Hsiao, Pei-Yun Hseuh, Jianying Hu, Joseph Jasinski, James Kaufman, Cherly Kieliszewski, Martin Kohn, Sarah Knoop, Paul Maglio, Ronald Mak, Haim Nelken, Chalapathy Neti, Hani Neuvirth, Yue Pan, Yardena Peres, Sreeram Ramakrishnan, Michal Rosen-Zvi, Sondra Renly, Pat Sellinger, Amnon Shab, Robert Sorrentino, Jimeng Sun, Tanveer Syeda-Mahmood, Wang-Chiew Tan, Ying Tao, Reza Yaesoubi, and Xinxin Zhu. Information Technology for Healthcare Transformation. *IBM Journal of Research and Development* (Volume 55, Number 5, pp. 492 – 505, 2011).
24. Nan Cao, **David Gotz**, Jimeng Sun and Huamin Qu. DICON: Interactive Visual Analysis of Multidimensional Clusters. *IEEE Transactions on Visualization and Computer Graphics* (Volume 17, Number 12, pp. 2581 – 2590, 2011).
25. Shahram Ebadollahi, Jimeng Sun, **David Gotz**, Jianying Hu, Daby Sow, and Chalapathy Neti. Predicting Patient's Trajectory of Physiological Data using Temporal Trends in Similar Patients: A System for Near-Term Prognostics. *Proceedings of the American Medical Informatics Association (AMIA) Annual Symposium* (pp. 192-196, 2010), Washington, DC.
26. Nan Cao, Jimeng Sun, Yu-Ru Lin, **David Gotz**, Shixia Liu and Huamin Qu. FacetAtlas: Multifaceted Visualization for Rich Text Corpora. *IEEE Transactions on Visualization and Computer Graphics* (Volume 16, Number 6, pp. 1172 – 1181, 2010).
27. Jimeng Sun, **David Gotz** and Nan Cao. DiseaseAtlas: Multi-facet Visual Analytics for Online Disease Articles. *Proceedings of IEEE Engineering in Medicine and Biology Society* (pp. 1123 – 1126, 2010), Buenos Aires, Argentina.
28. **David Gotz** and Michelle X. Zhou. Characterizing User's Visual Analytic Activity for Insight Provenance. *Information Visualization* (Volume 8, Number 1, pp. 42 – 55, 2009).

29. Yedendra Shrinivasan and **David Gotz**. Connecting the Dots in Visual Analysis. *Proceedings of IEEE Visual Analytics Science and Technology* (pp. 123 – 130, 2009), Atlantic City, New Jersey.
30. **David Gotz** and Zhen Wen. Behavior-Driven Visualization Recommendation. *Proceedings of ACM Intelligent User Interfaces* (pp. 315 – 324, 2009), Sanibel, Florida.
31. Wen-Huang Cheng and **David Gotz**. Context-Based Page Unit Recommendation for Web-Based Sensemaking Tasks. *Proceedings of ACM Intelligent User Interfaces* (pp. 107 – 116, 2009), Sanibel, Florida.
32. **David Gotz** and Michelle X. Zhou. Characterizing Users' Visual Analytic Activity for Insight Provenance. *Proceedings of IEEE Visual Analytics Science and Technology* (pp 123 – 130, 2008), Columbus, Ohio.
33. Ketan Mayer-Patel and **David Gotz**. Scalable and Adaptive Streaming for Non-Linear Media. *IEEE MultiMedia* (Volume 14, Number 3, pp. 68 – 83, 2007).
34. **David Gotz**. Scalable and Adaptive Streaming for Non-Linear Media. *Proceedings of ACM Multimedia* (pp. 357 – 366, 2006), Santa Barbara, California.
35. **David Gotz** and Michelle X. Zhou, Vikram Aggarwal. Interactive Visual Synthesis of Analytic Knowledge. *Proceedings of IEEE Visual Analytics Science and Technology* (pp. 51 – 58, 2006), Baltimore, Maryland.
36. **David Gotz** and Ketan Mayer-Patel. A Framework for Scalable Delivery of Digitized Spaces. *International Journal on Digital Libraries* (Volume 5, Number 3, pp. 205 – 218, 2005).
37. **David Gotz** and Ketan Mayer-Patel. A General Framework for Multidimensional Adaptation. *Proceedings of ACM Multimedia* (pp. 612 – 619, 2004), New York City, New York.
38. **David Gotz**, Ketan Mayer-Patel, and Dinesh Manocha. IRW: An Incremental Representation for Image-Based Walkthroughs. *Proceedings of ACM Multimedia* (pp. 67-76, 2002), Juan-les-Pins, France.
39. Ruigang Yang, **David Gotz**, Justin Hensley, Herman Towles, and Michael S. Brown. PixelFlex: A Reconfigurable Multi-Projector Display System. *Proceedings of IEEE Visualization* (pp. 167 – 174, 2001), San Diego, California.
40. Barbara Rothbaum, Larry Hodges, Renato Alacron, David Ready, Fran Shahar, Ken Graap, Jarrell Pair, Philip Hebert, **David Gotz**, Brian Wills, and David Baltzell. Virtual Reality Exposure Therapy for PTSD Vietnam Veterans: A Case Study. *Journal of Traumatic Stress* (Volume 12, Issue 2, pp. 263 – 271, 1999).
41. Larry Hodges, Barbara Rothbaum, Renato Alacron, David Ready, Fran Shahar, Ken Graap, Jarrell Pair, Philip Hebert, **David Gotz**, Brian Wills, and David Baltzell. A Virtual Environment for the Treatment of Chronic Combat-Related Post-Traumatic Stress Disorder. *CyberPsychology & Behavior* (Volume 2, Number 1, pp. 7 – 14, 1999).
42. Larry Hodges, Barbara Rothbaum, Renato Alacron, David Ready, Fran Shahar, Ken Graap, Jarrell Pair, Philip Hebert, **David Gotz**, Brian Wills, and David Baltzell. Virtual Vietnam: A Virtual Environment for the Treatment of Vietnam Veterans with Post- Traumatic Stress Disorder. *Proceedings of the International Conference on Artificial Reality & Tele-Existence* (pp. 1 – 6, 1998). Tokyo, Japan.

PEER REVIEWED WORKSHOP PAPERS & OTHER PEER REVIEWED MANUSCRIPTS

43. **David Gotz** and Rashnil Chaturvedi. Interactive Temporal Feature Construction: A User-Driven Approach to Predictive Model Development. *IEEE VIS Posters (2017)*, Phoenix, Arizona.
44. **David Gotz**, David Borland, Jesus Caban, Dawn Dowding, Brian Fisher, Vadim Kagan, and Danny T.Y. Wu. Evaluating Visual Analytics for Health Informatics Applications: A Progress Report from the AMIA VIS Working Group Task Force on Evaluation. *Visual Analytics in Healthcare Workshop (2016)*, Chicago, Illinois.
45. Shunan Guo, Chaoguang Lin, **David Gotz**, Bo Jin, Hongyuan Zha, Linhua Shu and Nan Cao. Understanding Care Plans of Community Acquired Pneumonia Based on Sankey Diagram. *Visual Analytics in Healthcare Workshop (2016)*, Chicago, Illinois.
46. **David Gotz**. Soft Patterns: Moving Beyond Explicit Sequential Patterns During Visual Analysis of Longitudinal Event Datasets. *Proceedings of the IEEE VIS 2016 Workshop on Temporal & Sequential Event Analysis (2016)*, Baltimore, Maryland.
47. **David Gotz** and Shun Sun. Visual Assessment of Cohort Divergence During Iterative Cohort Selection. *Proceedings of Visual Analytics in Healthcare Workshop (VAHC) (2015)*, Chicago, Illinois.
48. **David Gotz** and Jimeng Sun. Visualizing Accuracy to Improve Predictive Model Performance. *Proceedings of IEEE VIS Workshop on Visualization for Predictive Analytics (2014)*, Paris, France.
49. Grace Shin, Samuel McLean, June Hu, and **David Gotz**. Visualizing Temporal Patterns by Clustering Patients. *Proceedings of Visual Analytics in Healthcare Workshop (VAHC) (2014)*, Washington, DC.
50. Steven Steinhubl, Jimeng Sun, Rajakrishnan Vijayakrishnan, Roy Byrd, Zahra Daar, **David Gotz**, Shahram Ebadollahi, Walter Stewart. The Signs and Symptoms of Heart Failure are Frequently Documented to Wax and Wane in the Years Prior to a Clinical Diagnosis of Heart Failure: Data from 4,644 Patients Followed in Primary Care. *Clinical Medicine and Research (Volume 11, Issue 3, pp. 134 – 135, 2013)*.²
51. **David Gotz**, Nan Cao, Esther Goldbraich and Boaz Carmeli. GapFlow: Visualizing Gaps in Care for Medical Treatment Plans. *IEEE VIS Poster (2013)*, Atlanta, Georgia.
52. Adam Perer and **David Gotz**. Visualizations to Support Patient-Clinician Communication of Care Plans. *Proceedings of ACM CHI Workshop on Patient-Clinician Communication (2013)*, Paris, France.
53. Adam Perer and **David Gotz**. Data-Driven Exploration of Care Plans for Patients. *ACM CHI Extended Abstracts (2013)*, Paris, France.
54. Zhiyuan Zhang, **David Gotz** and Adam Perer. Interactive Visual Patient Cohort Analysis. *Proceedings of Visual Analytics in Healthcare Workshop (2012)*, Seattle, Washington.
55. Nan Cao, **David Gotz**, Jimeng Sun, Yu-Ru Lin, and Huamin Qu. ChronAtlas: A Visualization for Dynamic Topic Exploration. *IEEE Information Visualization Posters (2011)*, Providence, Rhode Island.

² This article was published in the Clinical Medicine and Research journal as a “Selected Abstract” from HMO Research Network 2013.

56. Krist Wongsuphasawat and **David Gotz**. Outflow: Visualizing Patient Flow by Symptoms and Outcome. *Proceedings of Visual Analytics in Healthcare Workshop (VAHC) (2011)*, Providence, Rhode Island.
57. Jimeng Sun, **David Gotz**, and Nan Cao. A Visualization Tool for Navigation of Online Disease Literature. *American Medical Informatics Association Annual Symposium (AMIA) Posters (2010)*, Washington, DC.
58. **David Gotz**, Zhen Wen, Jie Lu, Peter Kissa, Nan Cao, Wei Hong Qian, Shi Xia Liu and Michelle X. Zhou. HARVEST: An Intelligent Visual Analytic Tool for the Masses. *Proceedings of the First International Workshop on Intelligent Visual Interfaces for Text Analysis (2010)*, Hong Kong, China.
59. Yedendra Shrinivasan and **David Gotz**. Connecting the Dots with Related Notes. *ACM CHI Extended Abstracts (2009)*, Boston, Massachusetts.
60. Wen-Huang Cheng and **David Gotz**. Context-Based Page Unit Recommendation for Web-Based Sensemaking Tasks. *International World Wide Web Conference Poster (2008)*, Beijing, China.
61. **David Gotz**, Zhen Wen, Jie Lu, Peter Kissa, Michelle X. Zhou, and Nan Cao, Wei Hong Qian, Shi Xia Lui. HARVEST – Visualization and Analysis for the Masses. *IEEE Information Visualization Poster (2008)*, Columbus, Ohio.
62. **David Gotz**. The ScratchPad: Sensemaking Support for the Web. *International World Wide Web Conference Poster (2007)*, Banff, Canada.
63. **David Gotz**, Michelle X. Zhou and Zhen Wen. A Study of Information Gathering and Result Processing in Intelligence Analysis. *Proceedings of Workshop on Intelligent User Interfaces for Intelligence Analysis (2006)*. Sydney, Australia.
64. **David Gotz**. Supporting Adaptive Remote Access to Multiresolutional or Hierarchical Data for Large User Groups. *ACM Multimedia Doctoral Symposium (2004)*. New York City, New York.
65. Jarrell Pair, Carlos Jensen, Jeff Wilson, Larry Hodges, **David Gotz**, and Julian Flores. The NAVE: Design and Implementation of a Non-Expensive Immersive Virtual Environment. *ACM SIGGRAPH Sketches and Applications (2000)*, New Orleans, Louisiana.

EDITED MANUSCRIPTS AND BOOK CHAPTERS

66. Nan Cao, Yingcai Wu, **David Gotz**, Daniel Keim, Yap-Peng Tan. Special Issue on Visualization and Visual Analytics for Multimedia. *IEEE Transactions on Multimedia* (Volume 18, Issue 11, 2016).
67. Jesus Caban and **David Gotz** (Guest Eds). Special Issue on Visualization. *Journal of the American Medical Informatics Association (JAMIA)* (Volume 22, Issue 2, 2015).
68. **David Gotz**, Jesus Caban, and Annie T. Chen. Visual Analytics for Healthcare. *Healthcare Data Analytics (Chapman and Hall/CRC Press, 2015)*. ISBN 9781482232110.
69. **David Gotz** and Jesus Caban (Eds.). Proceedings of the 4th Visual Analytics in Healthcare Workshop. (2014).
70. **David Gotz** and Jesus Caban (Eds.). Proceedings of the 4th Visual Analytics in Healthcare Workshop. (2013).

71. George Bebis, Richard Boyle, Bahram Parvin, Darko Koracin, Baoxin Li, Fatih Porikli, Victor B. Zordan, James T. Klosowski, Sabine Coquillart, Xun Luo, Min Chen, and **David Gotz** (Eds.). Advances in Visual Computing – Proceedings of the 9th International Symposium on Visual Computing, Part I. Lecture Notes in Computer Science (Volume 8033, 2013).
72. George Bebis, Richard Boyle, Bahram Parvin, Darko Koracin, Baoxin Li, Fatih Porikli, Victor B. Zordan, James T. Klosowski, Sabine Coquillart, Xun Luo, Min Chen, and **David Gotz** (Eds.). Advances in Visual Computing – Proceedings of the 9th International Symposium on Visual Computing, Part II. Lecture Notes in Computer Science (Volume 8034, 2013).
73. **David Gotz** and Jesus Caban (Eds.). Proceedings of the 3rd Visual Analytics in Healthcare Workshop. (2012).
74. **David Gotz** and Jesus Caban (Eds.). Proceedings of the 2nd Visual Analytics in Healthcare Workshop. (2011).
75. **David Gotz** and Jimeng Sun (Eds.). Proceedings of the 1st Visual Analytics in Healthcare Workshop. (2010).

NON-REFEREED WORKS

76. **David Gotz** and David Borland. Data-Driven Healthcare: Challenges and Opportunities for Interactive Visualization. *IEEE Computing Edge* (January 2017).
77. Manish Kumar and **David Gotz**. System Design Barriers to HIS Data Use in Low and Middle-income Countries: A Literature Review. *UNC School of Information and Library Science Technical Report 2016-01* (2016).
78. Rachael Hageman Blair, Brian Chapman, Arianna Di Florio, Ellen Eischen, **David Gotz**, Mathews Jacob, Han Yu. Flexible bootstrapping and analytic approaches towards the clustering of complex medical data. *NIH Big Data to Knowledge All Hands Meeting Posters* (2016).
79. Brian Chapman, Arianna Di Florio, Ellen Eischen, **David Gotz**, Rachael Hageman, Mathews Jacob. Interactive Ensemble clustering for mixed data with application to mood disorders. *NIH Big Data to Knowledge All Hands Meeting Posters* (2015).
80. Anne-Marie Meyer and **David Gotz**. A New Privacy Debate. *Science*. (April 10, 2015, Volume 348, Number 6231).
81. Jesus Caban and **David Gotz**. 2011 Workshop on Visual Analytics in Healthcare: Understanding the Physician Perspective. *SIGHIT Record* (Volume 2, Number 1, 2012).
82. **David Gotz**. Dynamic Voronoi Treemaps: A Visualization Technique for Time-Varying Hierarchical Data. *IBM Research Technical Report RC25132* (2011).
83. **David Gotz** and Jimeng Sun. IEEE VisWeek Workshop on Visual Analytics in Health Care 2010. *SIGHIT Record* (Volume 1, Number 1, 2011).
84. **David Gotz** and Michelle X. Zhou. An Empirical Study of User Interaction Behavior During Visual Analysis. *IBM Research Technical Report RC24525* (2008).
85. **David Gotz**. Channel Set Adaptation: Scalable and Adaptive Streaming for Non-Linear Media. *University of North Carolina at Chapel Hill Department of Computer Science Ph.D. Dissertation* (2005).

86. **David Gotz** and Ketan Mayer-Patel. GAL: A Middleware Library for Multidimensional Adaptation. *University of North Carolina at Chapel Hill Department of Computer Science Technical Report TR05-023* (2005).
87. **David Gotz** and Ketan Mayer-Patel. Scalable and Adaptive Streaming for Non-Linear Media. *University of North Carolina at Chapel Hill Department of Computer Science Technical Report TR05-022* (2005).
88. Brian Begnoche, **David Gotz** and Ketan Mayer-Patel. The Design and Implementation of StrandCast. *University of North Carolina at Chapel Hill Department of Computer Science Technical Report TR05-004* (2005).
89. **David Gotz**. The Design and Implementation of PixelFlex: A Reconfigurable Multi-Projector Display System. *University of North Carolina at Chapel Hill Department of Computer Science Technical Report TR01-025* (2001).
90. **David Gotz**. Design Considerations for a Multi-Projector Display Rendering Cluster. *University of North Carolina Department of Computer Science Integrative Paper* (2001).

PATENTS GRANTED

This list enumerates patent applications which have been officially granted. Additional patent applications are currently under review.

1. Visual analysis of multidimensional clusters
US 9,342,579
Granted May 17, 2016
2. Context-based document unit recommendation for sensemaking tasks
US 9183281
Granted November 10, 2015
3. Iterative refinement of cohorts using visual exploration and data analytics
US 9171104
Granted October 27, 2015
4. Methods for organizing information accessed through a web browser
US 9158854
Granted October 13, 2015
5. Iterative refinement of cohorts using visual exploration and data analytics
US 9104786
Granted August 11, 2015
6. Generating animated Voronoi treemaps to visualize dynamic hierarchical data with node insertion
US 8952964
Granted February 10, 2015
7. Interactive visualization of temporal event data and correlated outcomes
US 8849823
Granted September 30, 2014

8. Techniques for organizing information accessed through a web browser
US 8589811
Granted November 19, 2013
9. Methods for organizing information accessed through a web browser
US 8205166
Granted June 18, 2012

TEACHING AND ADVISING

TEACHING AND ENROLLMENT

2017	Fall	INLS 582, Systems Analysis (26 Students) INLS 641, Visual Analytics (24 Students)
	Spring	INLS 560, Programming for Information Professionals (26 Students) INLS 582, Systems Analysis (27 Students) INLS 696, Independent Study (1 Student) INLS 886, Teaching Practicum (1 Student) INLS 992, Master's Paper (1 Student)
2016	Fall	INLS 582, Systems Analysis (29 Students) INLS 690-224, Visual Analytics (21 Students) INLS 696, Independent Study (2 Students) INLS 992, Master's Paper (2 Students)
	Summer	INLS 992, Master's Paper (1 Student)
	Spring	INLS 560, Programming for Information Professionals (28 Students) INLS 582, Systems Analysis (20 Students) INLS 696, Independent Study (1 Student) INLS 992, Master's Paper (4 Students)
2015	Fall	INLS 582, Systems Analysis (20 students) INLS 690, Visual Analytics (21 students) INLS 992, Master's Paper (2 student)
	Summer	INLS 696, Independent Study (1 student)
	Spring	INLS 394, Independent Study (1 student) INLS 560, Programming for Information Professionals (16 students) INLS 582, Systems Analysis (24 students) INLS 992, Master's Paper (1 student)
2014	Fall	INLS 582, Systems Analysis (13 students) INLS 690, Visual Analytics (17 students)
	Spring	INLS 582, Systems Analysis (23 students)
2004	Summer	COMP 14, Introduction to Programming (enrollment unknown)

PhD COMMITTEES

- 2015— **Natalie Stanley**, University of North Carolina at Chapel Hill, Math/Comp. Biology
Thesis Advisor: Peter Mucha
In progress
- 2014—2017 **Chanin Tolson**, University of North Carolina at Chapel Hill, Bioinformatics
Thesis Advisor: Alain Laederbach
Graduated May 2017
- 2016 **Yi Han**, Georgia Institute of Technology, Computer Science
Thesis Advisor: Gregory Abowd and John Stasko
Graduated December 2016
- 2012 **Krist Wongsuphasawat**, University of Maryland, Computer Science
Thesis Advisor: Ben Shneiderman
Thesis Title: Interactive Exploration of Temporal Event Sequences
Graduated June 2012. Accepted position at Twitter, Inc.
- 2010 **Yedendra Shrinivasan**, Technische Universiteit Eindhoven, Computer Science
Thesis Advisor: Jack van Wijk
Thesis Title: Supporting the Sensemaking Process in Visual Analytics
Graduated June 2010. Accepted position at IBM Research India.

RESEARCH MENTORSHIP AND SUPERVISION

- 2017— **Snigdha Petluru** (*Advised PhD Student*)
PhD Student at the University of North Carolina at Chapel Hill
- 2017— **Wenyuan Wang** (*Advised PhD Student*)
PhD Student at the University of North Carolina at Chapel Hill
- 2017— **Yufei Zhang** (*Graduate Research Assistant*)
Graduate Student at the University of North Carolina at Chapel Hill
- 2016— **Charlene Finley** (*Co-Advised PhD Student*)
PhD Student at the University of North Carolina at Chapel Hill
- 2015—2016 **Shun Sun** (*Graduate Research Assistant*)
Graduate Student at the University of North Carolina at Chapel Hill
- 2014—2016 **Arlene Chung, MD, MHA** (*KL2 Mentored Career Development Award Recipient*)
Assistant Professor of Medicine and Pediatrics at Univ. of North Carolina at Chapel Hill
- 2014—2015 **Annie Chen** (*Graduate Research Assistant*)
Graduate Student at the University of North Carolina at Chapel Hill
Received PhD and accepted position at University of Washington
- 2013 **Chad Stopler** (*Research Intern at IBM Research*)
Graduate Student at the Georgia Institute of Technology
- 2012 **Zhiyuan Zhang** (*Research Intern at IBM Research*)
Received PhD and accepted position at Graduate Student at Stony Brook University

- 2011 **Krist Wongsuphasawat** (Research Intern at IBM Research)
Graduate Student at the University of Maryland
Received PhD and accepted position at Twitter, Inc.
- 2010 **Nan Cao** (Research Intern at IBM Research)
Graduate Student at Hong Kong University of Science and Technology
Received PhD and accepted position at IBM T.J. Watson Research Center
- 2008 **Yedendra Shrinivasan** (Research Intern at IBM Research)
Graduate Student at Technische Universiteit Eindhoven
Received PhD and accepted position at IBM Research India
- 2007 **Wen-Huang Cheng** (Research Intern at IBM Research)
Graduate Student at National Taiwan University
Received PhD and accepted position at the Inst. of Information Science, Academia Sinica

MASTER'S PAPER / PROJECT SUPERVISION

- 2017 **Katherine Shaw**
Visualizing Women in Technology
- 2016 **Jiaoling Chen**
A Study to Explore How Differences in the Amount of Details in Visualization Impact Decision-making
- Nnenna Ibeanusi**
Understanding Geographic, Temporal, and Multidimensional Trends Using Visualization in Healthcare
- Jyotsna Krishna Sastrula**
Analysis and Visualization Methods for Data-Driven Longitudinal Patient Summary
- Rita Kundu**
Visual Analytics System Implementation in ICISS environment
- Shun Sun**
 Evaluation of a Visual Analytical Tool Used to Help Reduce the Unconscious Selection Bias Generated During High-Dimensional Data Selection
- Zhenwei Wang**
 Developing and evaluating the internet of things system for room management on campus, a usability perspective
- Qiongcheng Xu**
Data Mining and Visualization on Live Chat Data for E-commerce Business
- 2015 **Sreenivasula Reddy Gajjala**
Longitudinal Analysis of Readmission Risk Using Machine Learning
- Olivia Dorsey**
Visual Analysis of Phases of Police Brutality Against Unarmed African Americans from 1979 to 2014
- Caroline Simpson**
Nonprofit Use of Information Visualization

GRANTS AND CONTRACTS

ACTIVE GRANTS AND CONTRACTS

NFS CISE IIS Core Medium Program June 1, 2017 – May 31, 2021
Title: Bias Tracking and Reduction Methods for High-Dimensional Exploratory Visual Analysis and Selection
Role: PI
Total Award Amount: \$1,081,598

NSF DMS *QuBBD Program (Collaborative Research)* September 11, 2015 – September 10, 2017
Title: Interactive Ensemble clustering for mixed data with application to mood disorders
Role: PI
Total Award Amount: \$100,000 (\$21,500 to UNC)

NIH T32 *Big Data to Knowledge (BD2K) Training* May 1, 2015 – April 30, 2020
Role: Deputy Director
Total Award Amount: \$316,018

PRIOR FUNDING

Amazon *Amazon Web Services in Education Grant* May 1, 2015 – April 30, 2017
Title: Novel methods for visual analytics of electronic health data at scale
Role: PI
Total Award Amount: \$4,000

NCDS *Data Fellow Award* January 1, 2015 – December 31, 2015
Title: Visual analytics for large-scale temporal event data
Role: PI
Total Award Amount: \$50,000

Prior to January 2014, David Gotz was employed by IBM Research and was funded via internal IBM resources.

PROFESSIONAL SERVICE

- 2017 Co-Organizer, NII Shonan Meeting on Visual Analytics: Towards Effective Human-Machine Intelligence
Paper Chair, Workshop on Visual Analytics in Healthcare
Steering Committee, Workshop on Visual Analytics in Healthcare
Co-Chair, AMIA Working Group on Visual Analytics (VIS WG)
Co-Chair, AMIA VIS WG Task Force on Visualization Evaluation
Moderator, Visual Analytics in Healthcare Mailing List
Senior Program Committee, ACM International Conference on Healthcare Informatics (ICHI)
Program Committee for ACM Intelligent User Interfaces (IUI)
Program Committee for IEEE VAST
Program Committee, IEEE CHASE
- 2016 Co-Chair, AMIA Working Group on Visual Analytics
Chair, AMIA Working Group on Visual Analytics Task Force on Visualization Evaluation
Program Committee, DAVA: 2nd International Workshop on Data Mining Meets Visual Analytics in the Big Data Era, at ACM CIKM
Co-Chair, IEEE VIS Workshop on Temporal and Sequential Event Analysis
Guest Editor, ACM Transactions on Multimedia
Moderator, Visual Analytics in Healthcare Mailing List

- Steering Committee, Workshop on Visual Analytics in Healthcare
 Program Committee, IEEE CHASE
 Program Committee, IMCW
 Program Committee for IEEE VAST
 Program Committee for ACM Intelligent User Interfaces (IUI)
 Program Committee for International Symposium on Visual Computing (ISVC)
 Founder and Co-Chair, Triangle Visualization Group
- 2015 Founder, AMIA Working Group on Visual Analytics (founded in 2015)
 Co-Chair, AMIA Working Group on Visual Analytics
 Co-Chair, Exhibits for IEEE VIS
 Guest Editor, Journal of the American Medical Informatics Association (JAMIA)
 Guest Editor, ACM Transactions on Multimedia
 Program Committee for IEEE VAST
 Program Committee for ACM Intelligent User Interfaces (IUI)
 Program Committee for International Symposium on Visual Computing
 Senior Program Committee for ACM International Conference on Healthcare Informatics (ICHI)
 Steering Committee, Workshop on Visual Analytics in Healthcare
 Moderator, Visual Analytics in Healthcare Mailing List
 Tutorial Organizer, AMIA Annual Symposium Tutorial on Visual Analytics
- 2014 Co-Chair, Industry Outreach for IEEE VIS
 Co-Chair, AMIA Workshop on Visual Analytics in Health Care
 Co-Chair, CIKM Workshop on Interactive Mining for Big Data
 Guest Editor, Journal of the American Medical Informatics Association (JAMIA)
 Program Committee for the International Conference on Information Visualization Theory and Applications
 Program Committee for IEEE International Conference on Health Informatics (ICHI)
 Program Committee for International Symposium on Visual Computing
 Moderator, Visual Analytics in Healthcare Mailing List
- 2013 Co-Chair, International Symposium on Visual Computing
 Co-Chair, AMIA Workshop on Visual Analytics in Health Care
 Co-Chair, SIAM International Conference on Data Mining (SDM) Workshop on Data Mining for Medicine and Healthcare
 Co-Chair, Industry Outreach for IEEE VIS
 Program Committee for the International Conference on Information Visualization Theory and Applications
 Program Committee for the International Workshop on User-Adaptive Visualization
 Program Committee for the KDD 2013 Workshop on Interactive Data Exploration and Analytics
- 2012 Co-Chair, Financial Support for ACM SIGHIT International Health Informatics Symposium
 Co-Chair, IEEE VisWeek Workshop on Visual Analytics in Health Care
 Program Committee for the International Conference on Information Visualization Theory and Applications
 Program Committee for the International Symposium on Visual Computing
 DIMACS Medical Informatics Advisory Board
- 2011 Co-Chair, Tutorial Program for IEEE VisWeek
 Co-Chair, IEEE VisWeek Workshop on Visual Analytics in Health Care
 Co-Chair, ACM KDD Workshop on Visual Analytics and Information Fusion
 Track Co-Chair, International Conference of the IEEE Engineering in Medicine and Biology Society (IEEE EMBC)

- Program Committee for the International Conference on Information Visualization Theory and Applications
 Program Committee for the International Symposium on Visual Computing
- 2010 Co-Chair, IEEE VisWeek Workshop on Visual Analytics in Health Care
 Co-Chair, Tutorial Program for IEEE VisWeek
 Program Committee for ACM Multimedia
 Program Committee for the International Conference on Information Visualization Theory and Applications
 Program Committee for the International Symposium on Visual Computing
- 2009 Program Committee for IEEE VAST
 Program Committee for ACM Multimedia
 Program Committee for the International Symposium on Visual Computing
- 2008 Co-Chair, Poster Program for IEEE VAST
 Program Committee for ACM Multimedia
 Program Committee for the International Symposium on Visual Computing
- 2007 Co-Chair, Poster Program for IEEE VAST
 Program Committee for ACM Multimedia
- 2006 Program Committee for ACM Multimedia
 Best Short Paper Award Committee Member for ACM Multimedia Conference

Reviewer for several journals, conferences, and agencies including but not limited to:

ACM Conference on Human Factors in Computing Systems (CHI)
 ACM Intelligent User Interfaces (IUI)
 ACM Intelligent User Interfaces (IUI) Student Consortium
 ACM Multimedia
 ACM Transactions on Multimedia Computing, Communications and Applications
 ACM Transactions on Interactive Intelligent Systems
 Applied Clinical Informatics Journal (ACI)
 American Medical Informatics Association (AMIA) Annual Symposium
 EuroGraphics
 EuroVis
 IBM Journal of Research and Development
 IEEE Information Visualization (InfoVis)
 IEEE Computer Graphics and Applications (CG&A)
 IEEE International Conference on Health Informatics
 IEEE International Conference of Pervasive Computing and Communications
 IEEE MultiMedia Magazine
 IEEE Transactions on Circuits and Systems for Video Technology
 IEEE Transactions on Multimedia
 IEEE Visual Analytics Science and Technology (VAST)
 International Symposium on Visual Computing
 International Conference on Information Visualization Theory and Applications
 Journal of the American Medical Informatics Association (JAMIA)
 National Science Foundation
 Visual Analytics in Healthcare (VAHC) Workshop

SERVICE TO THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

- 2017* Campaign Faculty Ambassador, University of North Carolina
SILS Representative, Data Science PSM Committee, University of North Carolina
Faculty Search Committee, School of Information and Library Science
Organizer, 3rd Annual SILS Project Fair, School of Information and Library Science
Chair, Research and Doctoral Committee, School of Information and Library Science
Faculty Salary Committee, School of Information and Library Science
PSM Admissions Committee, Carolina Health Informatics Program
Curriculum Committee, Carolina Health Informatics Program
Associate Director, NIH BD2K T32 Training Program
- 2016* Organizer, 2nd Annual SILS Project Fair, School of Information and Library Science
Chair, Research and Doctoral Committee, School of Information and Library Science
Undergraduate Committee, School of Information and Library Science
Faculty Salary Committee, School of Information and Library Science
Admissions Committee, Professional Science Masters, Carolina Health Informatics Program
Curriculum Committee, Carolina Health Informatics Program
Associate Director, NIH BD2K T32 Training Program
- 2015* Organizer, 1st Annual SILS Project Fair, School of Information and Library Science
Staff Excellence Award Committee, School of Information and Library Science
Undergraduate Committee, School of Information and Library Science
Faculty Search Committee, School of Information and Library Science
Faculty Salary Committee, School of Information and Library Science
Admissions Committee, Professional Science Masters, Carolina Health Informatics Program
Associate Director, NIH BD2K T32 Training Program
Search Committee, Health Science Library Head of Health Information Technology
Initiatives
- 2014* Personnel Committee, School of Information and Library Science
Admissions Committee, Professional Science Masters, Carolina Health Informatics Program