Enrico Bertini
Curriculum Vitae

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Current Position

Assistant Professor.

Research Interests

Visual Analytics, Information Visualization, Visual Knowledge Discovery, High-Dimensional Data Analysis, Evaluation Methods, Quality Metrics.

Education

2006	Ph.D. in Computer Engineering, Sapienza University of Rome
2002	Laurea (M.Sc.) in Computer Engineering, Sapienza University of Rome
1994	Classical High School Graduation, Istituto "Villa Flaminia", Rome, Italy

Professional Experience

2012-Today	Assistant Professor, CSE, NYU Polytechnic School of Engineering, Brooklyn, NY
2009-2012	Post-Doctoral Research Fellow, University of Konstanz, Germany
2006-2009	Post-Doctoral Research Fellow, University of Fribourg, Switzerland
2002-2006	Ph.D. Candidate, Sapienza University of Rome

Grants

Awarded Grants as Principal Investigator

2013-2014	*"Data Visualization for Human Rights"* Seed Grant NYU/NYU-Poly, US$100,000
2011-2013	SteerSCiVA: *"Visual Analytics methods to steer the subspace clustering process"* DFG (German Research Foundation), 273.240 Euro
2011-2013	Humanitics: *"Visualizing migration flows and their development in time"* SNSF (Swiss National Foundation), 113.576 Swiss Francs
2009-2011	Humanitics: *"Visual Analytics for All"* SNSF (Swiss National Science Foundation), 96.568 Swiss Francs

Invited Talks

05/2014	Invited Talk at CCICADA Rutgers University
04/2014	Keynote NYU Center of Data Science Showcase
11/2014	Data Visualization Workshop at IBM Watson
06/2013	Keynote 4th Workshop on Interactive Data Visualization (Rio, Brazil)
05/2013	United Technologies Research Center
04/2012	University of Rostock
04/2012	NYU Poly
04/2012	University of Utah
03/2012	University of Notre Dame
12/2011	DBTA Workshop
06/2011	Visualizing Europe
04/2011	International Development Research Center
03/2011	UMASS Lowell
08/2009	Visual Analytics Center (VAC) Consortium Meeting
08/2009	University of Konstanz
12/2005	University of Fribourg
07/2005	SAP Research

Teaching

2014	Information Visualization (Spring), NYU-Poly
2013	Visual Analytics (Fall), NYU-Poly
2013	Information Visualization (Spring), NYU-Poly
2012	Applied Visual Analytics, University of Konstanz
2011	Applied Visual Analytics, University of Konstanz
2011	High-Resolution Applications for the Powerwall, University of Konstanz
2010	Information Visualization, University of Konstanz

Scientific Community Service

Program Committee Membership

IEEE InfoVis	Program Committee Member	(2012, 2013, 2014)
IEEE VAST	Program Committee Member	(2010, 2011, 2012, 2014)
EG/IEE EuroVis	Program Committee Member	(2011, 2012, 2013)
IEEE BioVis	Program Committee Member	(2012, 2013)
ACM AVI	Program Committee Member	(2010, 2012)

Conference Organization

2014	VIS 2014, Poster Co-Chair
2013	VIS 2013, Publicity Co-Chair
2012	VisWeek 2012, Publicity Co-Chair
2011	VisWeek 2011, Workshop Co-Chair
2010	VisWeek 2010, Workshop Co-Chair

Workshop Organization

2014	VIS Workshop on "Visualization for Predictive Analytics"	[with A. Perer, R. Maciejewski, J. Sun]
2012	BELIV VIS Workshop	[with P. Isenberg, T. Isenberg, H. Lam, A. Perer]
2010	BELIV CHI Workshop	[with Heidi Lam, A. Perer]
2008	BELIV CHI Workshop	[with A. Perer, C. Plaisant, G. Santucci]
2006	BELIV AVI Workshop	[with C. Plaisant, G. Santucci]

Reviewing

TVCG	Transaction on Visualization and Computer Graphics (TVCG)
IVS	Information Visualization Journal (IVS)
IJHCS	International Journal of Human-Computer Studies (IJHCS)
InfoVis	IEEE InfoVis (2008, 2009, 2010, 2011, 2012, 2013, 2014)
VAST	IEEE VAST (2009, 2010, 2011, 2012, 2014)
EuroVis	Eurographics/IEEE EuroVis (2010, 2011, 2012, 2013)
AVI	ACM AVI (2008, 2010, 2012)
BioVis	IEEE BioVis (2011, 2012, 2013)

Scientific Dissemination

Since Sep. 2010 founder and editor of http://fellinlovewithdata.com, a data visualization blog for scientific dissemination of data visualization research. Community size: more than ~3700 Subscribers (as of May 2014). Since Feb. 2012 founder and editor (with Moritz Stefaner) of http://datastori.es, a podcast on data visualization.

Supervision and Mentoring

Master Students

today	Master thesis advisor of Fabian Maaß, Univ. of Konstanz Topic: *Visual analytics for subspace search in high-dimensional data*
2010	Master thesis advisor of Stefan Moritz Koch, Univ. of Konstanz Topic: *Spatio-temporal visualization for territorial market analysis*
2007	Master thesis advisor of Lawrence Michel, Univ. of Fribourg Topic: *Web-based visualization of Swiss Post logistics*
2005	Master thesis advisor of Luigi dell'Aquila, Sapienza Univ. of Rome Topic: *Visualization techniques for multidimensional data visualization*

PhD Students

Current Students

2013-today	Josua Kruse
2013-today	Anshul Pandey

Past Students

2009-2013	PhD Advisor of Andrada Tatu, Univ. of Konstanz Thesis Topic: *Visual Analytics of Patterns in High-Dimensional Data* Co-advised with Prof. D. Keim
2008-2013	PhD advisor of Ilya Boyandin, Univ. of Fribourg Thesis Topic: *Visualization of Temporal Origin-Destination Data* Co-advised with: Dr. D. Lalanne

Publications

Summary

Publications by research topic:

Visual Analytics Techniques	[11, 4, 3, 27, 8, 14, 10, 16, 22, 39, 19, 20, 23, 25]
Visual Analytics Evaluation	[?, 1, 5, 13, 38, 21]
Visual Analytics Applications	[12, 35, 26, 37, 15, 29]
Visual Analytics Models and Taxonomies	[2, 36, 6, 28, 30, 34]
Mobile Human-Computer Interaction	[7, 9, 17, 18, 32, 24, 33]

Journals

[1] Ilya Boyandin, Enrico Bertini, and Denis Lalanne. A Qualitative Study on the Exploration of Temporal Changes in Flow Maps with Animation and Small-Multiples. *Eurographics/IEEE Computer Graphics Forum (Proc. of EuroVis)*, [in press], 2012.

[2] Enrico Bertini, Andrada Tatu, and Daniel Keim. Quality Metrics in High-Dimensional Data Visualization: An Overview and Systematization. *IEEE Transaction on Visualization and Computer Graphics (Proc. of InfoVis)*, 17(12):2203–2212, 2011.

[3] Ilya Boyandin, Enrico Bertini, Peter Bak, and Denis Lalanne. Flowstrates: An Approach for Visual Exploration of Temporal Origin-Destination Data. *Eurographics/IEEE Computer Graphics Forum (Proc. of EuroVis)*, 30(3):971–980, 2011.

[4] Milos Krstajič, Enrico Bertini, and Daniel Keim. CloudLines: Compact Display of Event Episodes in Multiple Time-Series. *IEEE Transaction on Visualization and Computer Graphics (Proc. of InfoVis)*, 17(12):2432–2439, 2011.

[5] Heidi Lam, Enrico Bertini, Petra Isemberg, Catherine Plaisant, and Sheelagh Carpendale. Empirical Studies in Information Visualization: Seven Scenarios. *IEEE Transaction on Visualization and Computer Graphics*, [in press], 2011.

[6] Enrico Bertini and Denis Lalanne. Investigating and Reflecting on the Integration of Automatic Data Analysis and Visualization in Knowledge Discovery. *SIGKDD Explorations (Special Issue on Visual Analytics and Knowledge Discovery)*, 11(2):9–18, 2010.

[7] Enrico Bertini, Tiziana Catarci, Alan Dix, Silvia Gabrielli, Stephen Kimani, and Giuseppe Santucci. Appropriating Heuristic Evaluation Methods for Mobile Computing. *International Journal of Mobile Human Computer Interaction*, 1(1):20–41, 2009.

[8] Enrico Bertini, Maurizio Rigamonti, and Denis Lalanne. Extended Excentric Labeling. *Eurographics/IEEE Computer Graphics Forum (Proc. of EuroVis)*, 28(3):927–934, 2009.

[9] C. Batini, E. Bertini, M. Comerio, A. Maurino, and G. Santucci. Visual Languages and Quality Evaluation in Multichannel Adaptive Information Systems. *Journal of Visual Languages and Computing*, 18(5):513–522, 2007.

[10] Enrico Bertini and Giuseppe Santucci. Give Chance a Chance: Modeling Density to Enhance Scatter Plot Quality through Random Data Sampling. *Information Visualization*, 5(2):95–110, 2006.

Refereed Conferences

[11] Florian Mansmann, Milos Krstajic, Fabian Fischer, and Enrico Bertini. StreamSqueeze: A Dynamic Stream Visualization for Monitoring of Event Data. In *Proc. of Conference on Visualization and Data Analysis (VDA)*, 2012.

[12] Enrico Bertini, Hendrik Strobelt, Joachim Braun, Oliver Deussen, Ulrich Groth, Thomas U. Mayer, and Dorit Merhof. HiTSEE: A Visualization Tool for Hit Selection and Analysis in High-Throughput Screening Experiments. In *Proc. of IEEE Symposium on Biological Data Visualization (BioVis)*, volume [**Best Paper Award: Honorable Mention**], 2011.

[13] Andrada Tatu, Peter Bak, Enrico Bertini, Daniel Keim, and Jorn Schneidewind. Visual Quality Metrics and Human Perception: An Initial Study on 2D Projections of Large Multidimensional Data. In *Proc. of ACM SIGCHI Working Conference on Advanced Visual Interfaces (AVI)*, 2010.

[14] Enrico Bertini, Andrea Di Girolamo, and Giuseppe Santucci. See What You Know: Analyzing Data Distribution To Improve Density Map Visualization. In *Proc. of Eurographics/IEEE-VGTC Symposium on Visualization (EuroVis)*, 2007.

[15] Enrico Bertini, Patrick Hertzog, and Denis Lalanne. SpiralView: Towards Security Policies Assessment through Visual Correlation of Network Resources with Evolution of Alarms. In *Proc. of IEEE Symposium on Visual Analytics Science and Technology (VAST)*, 2007.

[16] Enrico Bertini, Luigi Dell'Aquila, and Giuseppe Santucci. Reducing Infovis Cluttering through Sampling, Displacement, and User Perception. In *Proc. of Conference on Visualization and Data Analysis (VDA)*, 2006.

[17] Enrico Bertini, Silvia Gabrielli, and Stephen Kimani. Appropriating and Assessing Heuristics for Mobile Computing. In *Proc. of ACM SIGCHI Working Conference on Advanced Visual Interfaces (AVI)*, 2006.

[18] Enrico Bertini, Andrea Calì, Tiziana Catarci, Silvia Gabrielli, and Stephen Kimani. Interaction-based Adaptation for Small Screen Devices. In *Proc. of User Modeling (UM)*, 2005.

[19] Enrico Bertini, Luigi Dell'Aquila, and Giuseppe Santucci. SpringView: Cooperation of Radviz and Parallel Coordinates for View Optimization and Clutter Reduction. In *Proc. of IEEE International Conference on Coordinated & Multiple Views in Exploratory Visualization (CMV)*, 2005.

[20] Enrico Bertini and Giuseppe Santucci. Improving 2D Scatterplots Effectiveness through Sampling, Displacement, and User Perception. In *Proc. of IEEE International Conference on Information Visualization (IV)*, 2005.

[21] Enrico Bertini and Giuseppe Santucci. Is It Darker? Improving Density Representation in 2D Scatter Plots through a User Study. In *Proc. of Conference on Visualization and Data Analysis (VDA)*, 2005.

[22] Geoff Ellis, Enrico Bertini, and Alan Dix. The Sampling Lens: Making Sense of Saturated Visualisations. In *Proc. of ACM CHI Conference on Human Factors in Computing Systems (Late Breaking Results) (CHI)*, 2005.

[23] Enrico Bertini and Giuseppe Santucci. By Chance is Not Enough: Preserving Relative Density through Non Uniform Sampling. In *Proc. of IEEE International Conference on Information Visualization (IV)*, 2004.

[24] Enrico Bertini and Giuseppe Santucci. Modeling Internet Based Applications for Designing Multi-Device Adaptive Interfaces. In *Proc. of ACM SIGCHI Working Conference on Advanced Visual Interfaces (AVI)*, 2004.

[25] Enrico Bertini and Giuseppe Santucci. Quality Metrics for 2D Scatterplot Graphics: Automatically Reducing Visual Clutter. In *Proc. of Smart Graphics (SG)*, 2004.

Workshops

[26] Ilya Boyandin, Enrico Bertini, and Denis Lalanne. Using Flow Maps to Explore Migrations Over Time. In *Proc. of Geospatial Visual Analytics Workshop (GeoVA)*, Guimaraes (Portugal), 2010.

[27] Milos Krstajič, Enrico Bertini, Florian Mansmann, and Daniel Keim. Visual Analysis of News Streams with Article Threads. In *Proc. of International Workshop on Novel Data Stream Pattern Mining Techniques (StreamKDD)*, 2010.

[28] Enrico Bertini and Denis Lalanne. Surveying the Complementary Role of Automatic data Analysis and Visualization in Knowledge Discovery. In *KDD Workshop on Visual Analytics and Knowledge Discovery (VAKD)*, 2009.

[29] Enrico Bertini, Patrick Hertzog, and Denis Lalanne. Visual Analysis of Corporate Network Intelligence: Abstracting and Reasoning on Yesterdays for Acting Today. In *Proc. of ACM Workshop on Visualization for Computer Security (VizSEC)*, 2007.

[30] Enrico Bertini and Giuseppe Santucci. Visual Quality Metrics. In *Proc. of ACM CHI Workshop on BEyond time and errors: novel evaLuation methods for Information Visualization (BELIV)*, 2006.

[31] Stephen Kimani, Enrico Bertini, and Lucia Di Bello. The Pivotal Role of Visualization in Digital Libraries. In *Proc. of International Workshop on Audio-Visual Content and Information Visualization in Digital Libraries (AVIVDiLib)*, 2005.

[32] Enrico Bertini and Stephen Kimani. Library and Ubicomp: Supporting Seamless Interaction with Physical and Digital Entities. In *MobileHCI Workshop on Interaction Design for CSCL in Ubiquitous Computing*, 2004.

[33] Enrico Bertini and Stephen Kimani. Mobile Devices: Opportunities for Users with Special Needs. In *Proc. of ACM SIGCHI International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI)*, 2003.

[34] Enrico Bertini and Giuseppe Santucci. Data Mining and Information Visualization: a Result+Data Approach. In *DIMACS Workshop on Visualization and Data Mining*, 2002.

Posters / Magazines / Invited Papers

[35] Enrico Bertini, Juri Buchmüller, Fabian Fischer, Stephan Huber, Thomas Lindemeier, Fabian Maaß, Florian Mansmann, Thomas Ramm, Michael Regenscheit, Christian Rohrdantz, Christian Scheible, Tobias Schreck, Stephan Sellien, Florian Stoffel, Mark Tautzenberger, Matthias Zieker, and Daniel A. Keim. Visual Analytics of Terrorist Activities Related to Epidemics. In *IEEE Conference on Visual Analytics Science and Technology (VAST Challenge 2011)*, 2011. **[Grand Challenge Award]**.

[36] Daniel A. Keim, Peter Bak, Enrico Bertini, Daniela Oelke, David Spretke, and Hartmut Ziegler. Advanced Visual Analytics Interfaces. In *Proceedings of the International Working Conference on Advanced Visual Interfaces (AVI 10)*, pages 3–11. The Association for Computing Machinery, Inc. (ACM), May 2010. (Invited Paper).

[37] Ilya Boyandin, Enrico Bertini, and Denis Lalanne. Visualizing the World's Refugee Data with JFlowMap. In *Eurographics/IEEE-VGTC Symposium on Visualization (EuroVis) (Poster)*, 2010.

[38] Enrico Bertini, Catherine Plaisant, and Giuseppe Santucci. BELIV'06: Beyond Time and Errors, Novel Evaluation Methods for Information Visualization. *ACM Interactions*, 14(3):59–60, 2007.

[39] Enrico Bertini, Luigi Dell'Aquila, and Giuseppe Santucci. Reducing Infovis Cluttering through Sampling, Displacement, and User Perception. In *IEEE Symposium on Information Visualization (InfoVis) (Poster)*, 2005.