

Mauro Martino ^{PhD}

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mauro.martino@mamartino.com email
Cognitive Visualization lab
IBM Watson, 51 Astor Pl
New York NY 10003
United States
617 693 1324 USA lab

Current Position

1/2013 - present Lead of Cognitive Visualization Lab,
IBM Watson Group, Astor Place, New York City

Past Positions

- 11/2011 - 1/2013* Assistant Research Professor at Center for Complex Network Research,
and at LazerLab
Northeastern University, Boston, MA, USA.
- 1/2012 - 1/2014* Research Associate at Institute for Quantitative Social Science
Harvard University, Cambridge, MA, USA.
- 11/2010 - 11/2011* Postdoctoral Research Associate at Center for Complex Network Research
Northeastern University, Boston, MA, USA.
John F. Kennedy School of Government at Harvard University, Boston, MA, USA.
- 12/2009 - 10/2009* Postdoctoral Research Affiliate in Data Visualization at Senseable City Laboratory
Massachusetts Institute of Technology, Cambridge, MA, USA.
UI/Visualization Developer, Leader of the Project "Visualizing Complexity".
- 7/2008 - 12/2009* Full-time Research Affiliate in Data Visualization at Senseable City Laboratory
Massachusetts Institute of Technology, Cambridge, MA, USA.
UI/Visualization Developer, Leader of the Project "Visualizing Complexity".

Education

- 01/2007 - 12/2009* PhD in Design & Technologies for the Valorization of Cultural Assets.
Program at the Indaco - B.E.S.T. Department of Polytechnic of Milan
PhD Thesis: Urban Interaction Design, Digital Urban Simulation and Interaction
for the Cultural Heritage.
Advisor: Prof. S. Maffei, Prof. C. Ratti
Tutor: Prof. P.P. Vidari, Prof.ssa R. Trocchianesi
- 2003 - 2006* Master Degree in Product Service Systems Design, graduated with honors.
Polytechnic of Milan
Thesis: From 200 m to 20 m, location-based services in the age of Galileo - Global
Navigation Satellite System (GNSS).
Advisor: Prof. P.P. Vidari
- 2006 - 2007* Master Degree in Interior Design, graduated with honors.
Polytechnic of Milan and SPD
Thesis: Interactive Architecture

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Education

- 2000-2003* Laurea (MSc italian equivalent) in Product Design, graduated with honors.
Polytechnic of Milan
Thesis: ChromoTherapy and MusicTherapy with the Scriabin's Prometheus - The Poem of Fire.
Advisor: Prof. C. Colucci.
- July 1996* Scientific High School Diploma, with 60/60 (maximum marks)

Visiting periods

- 2008 - 2009* Senseable City Lab | Massachusetts Institute of Technology.
I worked on Real Time Data Visualization projects example:
Real Time Copenhagen - <http://senseable.mit.edu/realtimecopenhagen/>
October 10, 2008 in Copenhagen, during the Kultural Natte, we illuminated the city with big interactive screens and studied the interaction between events of the city and its citizens.
Obama | One People - <http://senseable.mit.edu/obama/>
Obama | One people is an unprecedented analysis of Barack Obama's Inauguration Day on January 20, 2009. The project featured two visualizations of mobile phone call activity that characterized the inaugural crowd and answer the questions: Who was in Washington, D.C. for President Obama's Inauguration Day? When did they arrive, where did they go, and how long did they stay?
- 2005* Clarion, Tokyo | Research and Development in Design Department
During my time at the Clarion department I worked on the interface design for a Portable Car Navigation and Pedestrian GPS.
- 2003 - 2004* PUC-Rio University | Rio de Janeiro
Courses in strategic design, communication design and housing architecture.

Teaching Assistantships

- Jan 2011 - Jan 2013* **Network Science**
Center for Complex Network Research, Northeastern University, Course.
- February 2010* **Visualizing Urban Data**
MIT, SENSEable City Lab, Workshop on Real-Time Cities.
- 2005 - 2008* Politecnico of Milan | Teaching Assistant
courses:
Product service system design,
Laboratory of museography,
Theoretical methods for design research.
As a teaching assistant, I improved my critical thinking as well as management skills. Some of my duties included project revision, documentation and teaching.

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Languages

Italian: native speaker.

English: Full Professional Proficiency

Portuguese: Minimum Professional Proficiency

German: elementary proficiency

Spoken Interaction: C2, Reading: C2, Writing: C2*

Spoken Interaction: C1, Reading: C2, Writing: A2*

Spoken Interaction: A2, Reading: A2, Writing: A2*

*Common European Framework of Reference for Languages

Technical Skills

3D modelling: 3D Max, CAD, Autodesk Inventor, Rhino, Real Flow, Maya.

Game programming tools: C4 Engine, Unity.

Graphic: Photoshop, Illustrator, Freehand, Indesign.

Sound editing: Cool edit pro, Lemur, Sound Forge.

Video: Adobe Premiere, After Effects.

Web design: Dreamweaver, Flash, Flex, Silverlight, JavaFx.

Manual skills: physical computing with ARDUINO, modeling of wood, metal, plastic and glass fibre.

Computer Skills

os Windows, Mac OS

programming C, C++, Java

other Processing, Python, OpenGL

library WebGL, D3, Raphael, Node,
Angular

database MongoDB, Titan

web design JavaScript, html5, CSS

scientific sw Matlab, Gephi

Selected Publications

The Rise of Partisanship in the U.S. House of Representatives, C. Andris, D. Lee, C.E. Gunning, M. Martino, M.J. Hamilton, J.A. Selden. (In Press, PLoS ONE)

VoroGraph: Visualization Tools for Epidemic Analysis, Cody Dunne, Michael Muller, Nicola Perra, Mauro Martino, CHI Interactivity, 2015

Readability metric feedback for aiding node-link visualization designers, Cody Dunne, Steven Ross, Ben Shneiderman, Mauro Martino, IBM Journal of Research and Development, 2015

A network framework of cultural history, Maximilian Schich, Chaoming Song, Yong-Yeol Ahn, Alexander Mirsky, Mauro Martino, Albert-László Barabási, Dirk Helbing, Science 345 (6196): 558-562, 2014

Prospect Theory for Online Financial Trading, YY Liu, JC Nacher, T Ochiai, M Martino, Y Altshuler, arXiv preprint arXiv:1402.6393, 2014

Catching fish in the stream: real time analysis of audience behavior in social media, YR Lin, D Margolin, B Keegan, M Martino, S Goodman, D Lazer, Proceedings of the 2013 conference on Computer supported cooperative work companion, 2013

CineData, using storytelling in dynamic visualizations of political networks, Martino, M., Goodman, S., Lin, Y., Lazer, D., Political Networks Conference, Boulder (CO, USA), 2012

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Publications

Why Temporal Resolution Matters in Epidemic Modeling?,
Dong, W., Martino, M., Lazer, D., NetSci, Evanston (IL, USA), 2012

Inscribing a Square - Urban Data as Public Space, book chapter, Springer, 2012

Controllability of Complex Networks, Nature Cover, 2011

Pulse of the City: Visualizing Urban Dynamics of Special Events
Vaccari, A., Martino, M., Ratti, C., GraphiCon - International Conference on Computer graphics and vision, Saint Petersburg, 2010.

syn(c)ity: visualizing the potential of a predictive in-car recommendation system
Martino, M., Di Lorenzo, G., KloECKl, K., Ratti, C., Internet of Things, Conference, Tokyo, 2010

Redrawing the map of Great Britain from a network of human interactions
Ratti, C., Sobolevsky, S., Calabrese, F., Andris, C., Reades, J., Martino, M., Claxton, R., Strogatz, S., Journal: PLoS ONE, 2010

*Ocean of Information:
Fusing Aggregate & Individual Dynamics for Metropolitan Analysis*
Martino, M., Calabrese, F., Andris, C., Liu, L., Ratti, C., IUI - International Conference on Intelligent User Interfaces, Hong Kong, 2009.

Selected Exhibitions

- 2012 - present **IBM - Internal Exhibitions**
World Wide
- September 2011 **Place Pulse**
Ars Electronica, Linz, Austria
- October 2010 **Maps for The 21st Century**
Royal Geographical Society, London, United Kingdom
- October 2010 **Maps for The 21st Century**
The Serpentine Gallery, London, United Kingdom
- January 2010 **MAPS DLD10 - Connect the unexpected**
DLD10, Munich, Germany
- June 2010 **SENSEable Cities: Exploring Urban Futures**
GAFTA, San Francisco, USA
- November 2008 **Desertmed**
Villa Romana, Firenze, Italy
- October 2008 **Real Time Copenhagen**
Copenhagen's KulturNatten, Copenhagen, Denmark

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Selected Talks

- June 2014* **Cognitive Visualization**
Monsanto, St. Louis, MO, USA
- February 2014* **Skoltech lectures on Visualization**
Skoltech University, Moscow, Russia
- October 2013* **Big Data Workshop**
University of Massachusetts, Boston
- August 2013* **Visualizing Models**
IBM Research Colloquium, São Paulo
- July 2013* **World Economic Forum Workshop on the Design of Complexity**
MIT, Cambridge
- February 2013* **Urban Interaction Design - SEMINAR SPRING 2013**
Department of Computer Science University of Houston
- November 2011* **Thrive in Data Visualization**
TEDx Cambridge
- May 2011* **Natural Interaction**
Smart City, IBM, Dublin
- April 2011* **Nature Visualization**
MIT Media Lab, Cambridge
- August 2010* **Network, Visualization and Society**
Center for Complex Network Research at Northeastern University
- May 2010* **Urban Interaction Design**
MIT Enterprise Forum, Auto-ID & Sensing Solutions.
- April 2009* **Visualizing Urban Data**
Politecnico di Milano, Density Design.

Selected Press

Charting Culture
The Economist | **Boston Globe** | **Corriere della Sera** | **The Spiegel** | **Huffinton Post**

A Universe of Hubs
Popular Science

Place Pulse
Fast Company | **The Guardian** | **Gizmodo** | **ZDNet SP**

Infographic: You just got Slashdotted
WIRED Magazine

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Selected Press

SENSEable Cities – Das digitale Netz der Stadt
Bauwelt

VisPolitics
Andrew Vande Moere, **Information Aesthetics**

Money Bombs
Nathan Yau, **Flowing Data**

Can telecom data help redraw political boundaries?
The Economist | **BBC News** | **The Guardian** | **MIT News**

Studies in Temporal Urbanism – The Urbantick Experiment
Fabian Neuhaus, **Springer**

The Digital City
WIRED Magazine

Deserted Islands of the Mediterranean
a+m bookstore edizioni, Milano

The World's (Phone) Reactions to Obama's Inauguration
Brady Forrest, **O'Reilly Radar**

Obama One People: Revealing the Emotional Flow of the Presidential Inauguration
Andrew Vande Moere, **Information Aesthetics**

Worldwide Obama Buzz Visualized
Nathan Yau, **Flowing Data**

Building the SENSEable City
James Turner, **O'Reilly Radar**

Workshop Organizer

Academic Director of UdE 2012
Université d'été, Yverdon-les-Bains, Swiss

Organizing Committee: The First Workshop on Pervasive Urban Applications
(PURBA), San Francisco, CA, USA June 12-15, 2011.

Workshops chair: Tec Art Eco - Arts, Environment and Technology Lugano, Switzerland, May 5-8, 2011.

Workshops chair: International Conference on User Centric Media Palma de Mallorca, Spain.

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Research Collaborations

Barabasi Lab - Center for Complex Network Research, and LazerLab
Northeastern University, Boston, MA, USA.

Macro Connections
MIT Media Lab, Massachusetts Institute of Technology, Cambridge;
Place Pulse project.

Smarter Cities Technology Center
IBM Research & Development, Dublin, Ireland.

Human Dynamics
MIT Media Lab, Massachusetts Institute of Technology, Cambridge.

Large Graphs and Networks group
Universite catholique de Louvain, Louvain, Belgium.
Analysis of mobile phone networks.

Airsage, Atlanta, USA.
Using cellphone traces to model urban mobility in the city.

Telecom Italia Lab, Turin, Italy.
Location tracking and velocity estimation of mobile phones.