

# Jacopo Staiano

## Fortia Financial Solutions

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## Personal

Born: Pompeii, 13/02/1981  
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## Current Position

Senior Research & Data Scientist  
NLP - AI - Blockchain  
Fortia Financial Solutions  
Paris

## Current Role

I am Senior Research & Data Scientist at [Fortia Financial Solutions](#). I joined the company when it had less than 10 employees (I was the hire #2 in the Data Science team) and contributed to its growth (currently > 70 full-time employees). I work mostly on NLP tasks such as sentence classification, information extraction, and on the parsing of heterogeneous PDF documents. Methods include CNNs and LSTM networks, using `Keras-Tensorflow`, and text-mining built on top of `nlTK` and `spacy` libraries. I built the datasets used for training our models, searching and scraping diverse online sources and indexing them on ElasticSearch and Neo4j instances.

I continuously review and test the code produced by the team, performing refactoring and optimizations to make it production-ready and designing and implementing the API communication protocols.

I research, design and propose potentially valuable product prototypes to the company managers.

## Research Interests & Experience

Focusing on human behavior analysis, my research experience encompasses a broad range of domains: from sonic arts to computer vision, from natural language processing to ubiquitous technologies. Several of my works propose computational approaches to tackle research problems in the social sciences domain.

I have published in top-tier conferences/journals (ACL, WWW, ACM UbiComp, TPAMI, UMUAI among others).

Over the years, my research has received significant exposure on the international press (Forbes, MIT Tech Review, Bloomberg among others); further, I have been awarded with: Honorable Mention at ACM DIS 2012, Best Paper Award at ACM UbiComp 2014, and the UMUAI James Chen Annual Award for Best Journal Article in 2016. In 2017, the team I coordinated won the SemEval challenge (task 5.2) on predicting bullish vs bearish sentiment from financial news headlines.

I have conducted research in collaboration with major Telcos (Telefonica, Orange, Telecom Italia) and world-renowned labs (Human Dynamics at MIT Media Lab, Ambient Intelligence Research at Stanford University). I am Senior Research Affiliate at [DataPop Alliance](#), a global coalition on Big Data and development created by the Harvard Humanitarian Initiative, MIT Media Lab, and Overseas Development Institute.

## Professional Experience

Employer: [Fortia Financial Solutions](#)  
Position: Senior Research & Data Scientist  
Period: October 2016 - current  
City: Paris, FR

Employer: [Laboratoire d'Informatique de Paris 6, UPMC - Sorbonne Universités](#)  
Position: Post-Doctoral Researcher  
Period: January 2015 - October 2016  
City: Paris, FR  
Duties: Lead Researcher on IoT & Smart Cities, Web Science, NLP (see publications in Big Data Journal, WWW 2015, WWW 2016, IEEE TPAMI)

Employer: [Mobile & Social Computing Lab, FBK](#)  
Position: Post-Doctoral Researcher  
Period: June 2014 - December 2014  
City: Trento, IT  
Duties: Researcher on Mobile Computing, Smart Cities, NLP (see publications in ICMI 2014, ACM UBICOMP 2014, ACL 2014)

Employer: [Intelligent Systems Lab, University of Amsterdam](#)  
Position: Scientific Programmer  
Period: May 2008 - November 2009  
City: Amsterdam, NL  
Duties: Development of computer vision applications within the MIAUCE EU-funded project; main developer and maintainer of the eMotion Recognition Software, now part of [SightCorp](#)

Employer: [Mc3 Informatica](#)  
Position: IT Consultant  
Period: September 2007 - May 2008  
City: Rome, IT  
Duties: Development of J2EE applications for [Sogei](#) (technological partner of the Italian Tax Administration)

Employer: [Insirio SPA](#)  
Position: IT Consultant  
Period: January 2006 - August 2007  
City: Rome, IT  
Duties: Development of J2EE applications for [INAIL](#) (Italian Workers' Compensation Authority)

Employer: [Sykes Enterprises](#)  
Position: Nokia Networks Agent  
Period: April 2004 - July 2004  
City: Amsterdam, NL  
Duties: Technical support for Nokia's GSM-GPRS-UMTS mobile networks

## Technical Skills

Programming Languages: C++, Java, python, Matlab, R.

Domains: Natural Language Processing, Pervasive and Ubiquitous Computing, Computational Social Science, Privacy, Smart Cities, Web Science, Computer Vision. Bitcoin on spare time.

## Education

Ph.D. in [Information and Communication Technology](#), University of Trento, 2014.  
M.Sc. [Human Language Technology and Interfaces](#), University of Trento, 2010.  
M.A. [Sonic Arts](#), [Sonic Arts Research Center](#), Queen's University of Belfast, 2005.  
B.Eng. [Computer Engineering](#), University of Pisa, 2003.

## Awards

James Chen Annual Award for Best Journal Article - 2016.  
Best Paper Award, ACM UbiComp 2014.  
Honorable Mention, ACM DIS 2012.

## Visiting Researcher Experience

**Telefonica R&D - Telefonica** - Barcellona, Spain  
November 2013 - February 2014 *advisor*: Dr. Nuria Oliver

During my visiting period at TID, I have focused on three projects: the Mobile Data Monetization (MDM) study, as principal investigator, which constituted the primary reason for my visit; the Crime Prediction from Aggregated and Anonymized Mobile Data project, a follow-up of the winning proposal of the Datathon 4 Social Good I contributed to, whose outcomes have been presented as full paper at ACM ICMI 2014; and, the Psychographics project in collaboration with Bouygues Telecom (France). For the MDM study, I have designed and implemented the entire experimental infrastructure, including real-time monitoring tools to oversee the status of the data collection. I have post-processed and analyzed the data, and the research findings have been published as full paper in the ACM UbiComp 2014 proceedings (the paper has won the Best Paper Award).

**Human Dynamics Lab - MIT Media Lab**, Cambridge MA, USA  
August-September 2013 *advisor*: Prof. Alex Pentland

During this visit, I have worked on the integration of *social health maps* (a visualization and analysis framework meant to provide high-level insights from real-time data sources) with personal data under the user-centric personal data store paradigm. I have participated to the Datathon 4 Social Good, organized by Telefonica and the Open Data Institute among others at the CampusPartyEU gathering in London. Our team won the first prize with a project aimed at predicting next month crime levels for London areas, based on open and SmartSteps data.

**Human Dynamics Lab - MIT Media Lab**, Cambridge MA, USA  
October 2011 *advisor*: Prof. Alex Pentland

During this visit, I have investigated the relationships between individual attributes and structural network characteristics, using smartphone data. This visit led to a work published at ACM UbiComp 2012 and to the opening of a promising direction in assessing how relationships emerge and evolve in real-life social networks.

**Ambient Intelligence Research Lab - Stanford University**, Palo Alto CA, USA  
May 2010 - July 2010 *advisor*: Prof. Hamid Aghajan

During my stay at Stanford University, I have worked on gathering a novel audio/visual dataset in a smart meeting setting, involving remote participants and less constrained if compared to previous data collections. I contributed to the design of a first prototype of the proposed smart meeting system.

## Invited Talks

### Open Government Partnership Global Summit - Paris, France

December 9th 2016

I was invited to join, as panelist, the “*Will algorithms weaken or revive democratic governance?*” workshop. In my speech I elaborated on the potential downsides and upsides of current development in AI and decentralization technologies, focusing on what factors – in the context of algorithms for social good – can help limit the risks while maximizing the potential benefits.

### Université Paris-Sorbonne - Paris, France

June 13th 2016

I gave a one-hour seminar titled “From Data to City Science: Challenges & Opportunities for the Cities of Tomorrow” at the “The European Capitals of the Future in the context of Innovation and Eco-sustainability” International Research Seminar.

### Telefonica I+D - Barcellona, Spain

November 20th 2014

I was invited to present my work on the economics of personal data at the Data Transparency Lab Launch Workshop.

### Lutin Userlab - Paris, France

October 22th 2014

I gave a one-hour talk on my work on living labs and user behavior research, with a particular focus on my study on the economics of personal data.

### Microsoft Research - Redmond WA, USA

August 24th 2012

I was invited to give a one-hour talk on my research activities by the Adaptive Systems and Interaction group, focusing on personality recognition from social network structure, on the use of wearables for organizational studies, and on automated emotion tracking for User eXperience evaluation.

### Stanford University - Palo Alto CA, USA

June 11th 2010

I gave a 15-minutes talk, titled “Social Avatars For Tele-presence”, at the [Ambient Intelligence: From Sensor Networks to Smart Environments and Social Media](#) workshop.

## Publications available for download at [staiano.net/#research](http://staiano.net/#research)

### Journal Articles

- [1] Investigating the Role of Social Interactions on Personality States Dynamics - D. Gundogdu, J. Staiano, A. Finnerty, S. Teso, A. Passerini, F. Pianesi, B. Lepri - *Royal Society Open Science*, 2017
- [2] SALSA: A Novel Dataset for Multimodal Group Behavior Analysis - X. Alameda-Pineda, J. Staiano, R. Subramanian, L. Batrinca, E. Ricci, B. Lepri, O. Lanz, N. Sebe - *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2016
- [3] The Role of Personality in Shaping Social Networks and Mediating Behavioral Change - B. Lepri, J. Staiano, E. Shmueli, F. Pianesi, A. Pentland - *User Modeling and User-Adapted Interaction: The Journal of Personalization Research*, 2016 – **James Chen Annual Award for Best Journal Article**

- [4] Moves on the Street: Classifying Crime Hotspots Using Aggregated Anonymized Data on People Dynamics - A. Bogomolov, B. Lepri, J. Staiano, E. Letouze N. Oliver, F. Pianesi, A. Pentland - *Big Data Journal*, 2015
- [5] Connecting meeting behavior with Extraversion - A systematic study - B. Lepri, R. Subramanian, K. Kalimeri, J. Staiano, F. Pianesi, N. Sebe - *IEEE Transactions on Affective Computing*, 2012
- [6] Looking at the Viewer: Exploiting Facial Activities to Detect Personal Highlights of Multimedia Contents - H. Joho, J. Staiano, N. Sebe, J. Jose - *International Journal of Multimedia Tools and Applications, Special Issue on Hot Research Topics in Multimedia*, 2011

### **Book Chapters**

- [7] The Tyranny of Data? The Bright and Dark Sides of Data-Driven Decision-Making for Social Good - B. Lepri, J. Staiano, D. Sangokoya, E. Letouze, N. Oliver - in T. Cerquitelli, D. Quercia, F. Pasquale *Transparent Data Mining for Big and Small Data, Studies in Big Data Series, Springer*
- [8] The Rise of Decentralized Personal Data Markets - J. Staiano, G. Zyskind, B. Lepri, N. Oliver, A. Pentland - in T. Hardjono, D. Shrier, A. Pentland *Trust::Data: A New Framework for Identity and Data sharing*

### **Conferences**

- [9] Fortia-FBK at SemEval-2017 Task 5: Bullish or Bearish? Inferring Sentiment towards Brands from Financial News Headlines - Y. Mansar, L. Gatti, S. Ferradans, M. Guerini, J. Staiano - *11th International Workshop on Semantic Evaluation (SemEval-2017), ACL, 2017* – **Benchmark Winner**
- [10] Managing Personal Information: A Telco Perspective - E. Szczekocka, J. Gromada, A. Filipowska, P. Jankowiak, P.Kauzny, A. Brun, J.M. Portugal, J. Staiano - *19th Innovation in Clouds, Internet and Networks Conference (ICIN)*, 2016
- [11] The Death and Life of Great Italian Cities: A Mobile Phone Data Perspective - M. De Nadai, J. Staiano, R. Larcher, N. Sebe, D. Quercia, B. Lepri - *25th International World Wide Web Conference (WWW)*, 2016  
*\*featured on [MIT Tech Review](#)*
- [12] Deep Feelings: A Massive Cross-Lingual Study on the Relation between Emotions and Virality - M. Guerini, J. Staiano - *24th International World Wide Web Conference (WWW)*, 2015  
*\*featured on [MIT Tech Review](#), [Linkiesta](#)*
- [13] Money Walks: A Human-Centric Study on the Economics of Personal Mobile Data - J. Staiano, B. Lepri, N. Oliver, R. Oliveira, N. Sebe - *ACM International Conference on Ubiquitous Computing (UBICOMP)*, 2014 – **Best Paper Award**  
*\*featured on [MIT Tech Review](#), [The Washington Post](#), [La Repubblica](#), [La Stampa](#).*
- [14] Depeche Mood: A Lexicon for Emotion Analysis from Crowd Annotated News - J. Staiano, M. Guerini - *The 52nd Annual Meeting of the Association for Computational Linguistics (ACL)*, 2014. – **DEMO**  
*\*featured on [Corriere della Sera](#)*
- [15] Once Upon a Crime: Towards Crime Prediction from Demographics and Mobile Data - A. Bogomolov, B. Lepri, J. Staiano, N. Oliver, F. Pianesi, A. Pentland - *16th ACM International Conference on Multimodal Interaction (ICMI)*, 2014.  
*\*featured on [Forbes](#), [The Register](#)*

- [16] On the relationship between head pose, social attention and personality prediction for unstructured and dynamic group interactions - R. Subramanian, Y. Yan, J. Staiano, O. Lanz, N. Sebe - *15th ACM International Conference on Multimodal Interaction (ICMI)*, 2013.
- [17] Ego-Centric Graphlets for Personality and Affective States Recognition - S. Teso, J. Staiano, A. Passerini, B. Lepri, F. Pianesi - *ASE/IEEE International Conference on Social Computing*, 2013. [short]
- [18] Exploring Image Virality in Google Plus - M. Guerini, J. Staiano, D. Albanese - *ASE/IEEE International Conference on Social Computing*, 2013  
\*featured on [MIT Tech Review](#).
- [19] Multimodal Engagement Classification for Affective Cinema - M. K. Abadi, J. Staiano, A. Cappelletti, M. Zancanaro, N. Sebe - *Affective Computing and Intelligent Interaction*, 2013.
- [20] The SocioMetric Badges Corpus: Collecting Multilevel Behavioral Data for Studying Complex Organizations - B. Lepri, J. Staiano, G. Rigato, K. Kalimeri, A. Finnerty, F. Pianesi, N. Sebe, A. Pentland - *ASE/IEEE International Conference on Social Computing*, 2012.
- [21] Enhanced Semantic Descriptors for Functional Scene Categorization - G. Zen, N. Rostamzadeh, J. Staiano, E. Ricci, N. Sebe - *IAPR International Conference on Pattern Recognition (ICPR)*, 2012.
- [22] Friends don't Lie - Inferring Personality Traits from Social Network Structure - J. Staiano, B. Lepri, N. Aharony, F. Pianesi, N. Sebe, A. Pentland - *ACM International Conference on Ubiquitous Computing (UBICOMP)*, 2012  
\*featured on [La Stampa](#).
- [23] UX\_Mate: From Facial Expressions to UX Evaluation - J. Staiano, M. Menendez, A. Battocchi, A. De Angeli, N. Sebe - *ACM Designing Interactive Systems (DIS)*, 2012 **Best Paper Nominee**.
- [24] Contextual Modeling of Personality States Dynamics in Face to Face Interactions - J. Staiano, B. Lepri, K. Kalimeri, F. Pianesi, N. Sebe - *IEEE International Conference on Social Computing*, 2011. [short]
- [25] Automatic Modeling of Personality States in Small Group Interactions - J. Staiano, B. Lepri, R. Subramanian, F. Pianesi, N. Sebe - *ACM MultiMedia*, 2011. [short]
- [26] Employing Social Gaze and Speaking Activity for Automatic Determination of the Extraversion Trait - B. Lepri, R. Subramanian, K. Kalimeri, J. Staiano, F. Pianesi, N. Sebe - *International Conference on Multimodal Interfaces (ICMI)*, 2010.
- [27] Putting the Pieces Together: Multimodal Analysis of Social Attention in Meetings - R. Subramanian, J. Staiano, K. Kalimeri, N. Sebe, F. Pianesi - *ACM MultiMedia*, 2010. [short]
- [28] Webcam-Based Visual Gaze Estimation - R. Valenti, J. Staiano, N. Sebe, T. Gevers - *International Conference on Image Analysis and Processing (ICIAP)*, 2009.
- [29] Creating Accessible Bitmapped Graphs for the Internet - G. McAllister, J. Staiano, W. Fu - *Haptic and Audio Interaction Design (HAID)*, 2006.

## Teaching and Mentoring Activities

Teaching Assistant for the “Economics & Management/Innovation & Entrepreneurship” (M.Sc. level) course (Prof. Matteo Bonifacio), University of Trento and European Institute of Technology (EIT).  
Teaching Assistant for the “Multimedia Systems” and “Machine Learning” (M.Sc. level) courses (Prof. Nicu Sebe), University of Trento.

Co-organizer and mentor for the pilot StartUp Course activated by the European Institute of Technology in collaboration with Intel and JA-YE. I co-mentored the three student teams who submitted to the challenge. One of these was selected for the final event in Dublin.

Co-advisor for a Human-Computer Interaction thesis of the M.Sc. in Computer Science and Information Engineering.

## Scientific Community Participation

Program Committee Member of *ASE/IEEE SocialCom* 2012, *ACM MultiMedia* 2014, *ACM MultiMedia* 2015, *ACM Digital Health* 2015, *ACM Digital Health* 2016, *ACM CHI* 2016, *WWW* 2016, *ACM MultiMedia* 2016.

Reviewer for *IEEE Pervasive Computing Magazine*, *IEEE TAC*, *Pervasive and Mobile Computing*, *Journal on Multimodal User Interfaces*, *ACM TOCHI*, *ACM MultiMedia*, *ACM TAFF*, *Asian Conference of Computer Vision*, *ASE/IEEE International Conference on Social Computing*, *IEEE MultiMedia*, *Neurocomputing*.

Active participation in the EC-funded MIAUCE (FP6), GLOCAL (FP7), CIVIS (FP7) projects, and in the FIRB (italian NSF)-funded S-PATTERNS project.

## Languages

Italian, English, French.

Last updated: May 21, 2018