

# Gabriele Etta

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		<b>Languages</b>	Italian, English (B2)

## Short Biography

I am a 3rd year PhD student at the Sapienza University of Rome, working at the Center for Data Science and Complexity for Society under the supervision of prof. Walter Quattrociocchi. My research activity focuses on data-driven modelling of social dynamics, with a particular interest in news consumption, moderation policies, recommendation algorithms and the interplay of these aspects in forming echo platforms. My previous experiences in the private sector as a Full Stack Developer and Data Analyst provided me with both hard and soft skills, which helped me become a researcher with a result-oriented attitude, being able to set realistic goals in the short and long term. Moreover, I developed a team management expertise, guiding people under my supervision with concrete support from a technical, scientific and management perspective.

## Education

- 2017-2020** MSc in Data Science - University of Padua, Italy  
Thesis "Analyzing Social Dynamics and Linguistic Features of Online Extremism: the case of Gab"  
Member of SPRITZ Group. Principal Investigator: Prof. Mauro Conti  
Final Score: 110/110  
Full English Degree
- 2013-2016** BSc in Computer Science - University of Parma, Italy  
Thesis "Polyglot persistence: an analysis of its application in a business context"  
Member of the Computer Science Joint Committee in Parma  
Department Representative

## Employment History

- Oct 2020** Sapienza University of Rome, Rome (RM), Italy  
**Current** *PhD Student*  
PhD Student in Computer Science under the supervision of prof. Walter Quattrociocchi, working on Data driven modeling of social dynamics.

### Main activities:

- Reviewer for PLOS ONE journal
- Teacher Assistant for "Programming Methodologies" course
- Teacher Assistant for "Digital Systems" course
- Member of Facebook Data for Good Program
- Member of IRIS research alliance

- Feb 2021** University of Padova, Padova (PD), Italy  
**Current** *Research Fellow*

Extending the research activity started at Ca' Foscari University as a member of SPRITZ Group, lead by prof. Mauro Conti.

**Nov 2020**  
**Feb 2021** Ca' Foscari University of Venice, Venice (VE), Italy  
*Research Fellow*

Research member of the Data Science and Social Complexity Laboratory, lead by prof. Walter Quattrociocchi. My main duties revolved around the study of social and opinion dynamics, providing mathematical and data driven tools to address the questions that arise from the different scenarios.

**Nov 2019**  
**Jul 2020** Ca' Foscari University of Venice, Venice (VE), Italy  
*Research Intern*

Member of the Data Science and Social Complexity Laboratory, lead by Prof. Walter Quattrociocchi, performing research activities about:

- Evolution of Social Dynamics and Linguistic features in the case of online extremism
- Spreading of Misinformation
- Employment of Mathematical Models and Computational Tools to answer questions about societal problems

As a result of this experience, a paper called *Information Consumption and Social Response in a Segregated Environment: the Case of Gab* was presented at SocInfo 2020 conference.

**Technologies and Skills:** R, Python, Data Analysis, Data Visualization.

**Sep 2016 -**  
**Feb 2020** Engage It Services, Fidenza (PR), Italy  
*Full Stack Developer / Data Analyst / Consultant*

My main duties concerned the development of ERP and Big Data solutions for clients in the Italian and European markets. In addition to this, I also took part of many mentoring activities with the goal of teaching working methodologies to high school students.

**Technologies and Frameworks:** Kafka, Hadoop, C#, Microsoft SQL Server, SSIS, SSRS, Power BI, .NET, WPF, WCF, RabbitMQ, Microservices architecture, Agile.

**Oct 2016 -**  
**Jun 2018** Microsoft, Milan (MI), Italy  
*Speaker / Regional Coordinator*

Microsoft Student Partner is a worldwide program for university students where they can volunteer by attending events or by being a speaker to let people know about Microsoft technologies and products.

**Main activities:**

- Conference Speaker, presenting Microsoft Solutions and its applications to students from High Schools and Universities
- Regional Activity Coordinator

## Research Papers

- **Reliability of News and Toxicity in Twitter Conversations:** A. Quattrociocchi, **Gabriele Etta**, Michele Avalue, Matteo Cinelli, and Walter Quattrociocchi, to appear on **SocInfo 2022 Conference**.

- Explored the interplay between the systematic spreading of misinformation and the emergence of toxic conversations
- Performed a quantitative analysis on 3.3M comments by more than 1M unique users from 25K conversations involving 60 news outlets active on Twitter from January 2020 to April 2022
- Tagged the news triggering the conversation with NewsGuard and performed an analysis of the structure of toxic conversations on Twitter
- **Findings:** users using toxic language are few and evenly distributed over the entire reliability score range, showing no significant evidence for the interplay between toxic speech and misinformation spreading.
- **Lack of evidence for correlation between COVID-19 infodemic and vaccine acceptance:** Carlo Valensise, Matteo Cinelli, Matthieu Nadini, Alessandro Galeazzi, Antonio Peruzzi, **Gabriele Etta**, Fabiana Zollo, Andrea Baronchelli, Walter Quattrociocchi, to appear on **PLOS ONE**.
  - Analyzed the vaccine infodemics on Twitter and Facebook by looking at 146M contents produced by 20M accounts between 1 January 2020 and 30 April 2021
  - **Findings:** vaccine-related news triggered huge interest through social media, affecting attention patterns and the modality in which information was spreading. However, we observe that such a tumultuous information landscape translated only in minimal variations in overall vaccine acceptance as measured by Facebook's daily COVID-19 Trends and Impact Survey (previously known as COVID-19 World Symptoms Survey) on a sample of 1.6M users.
- **Comparing the impact of social media regulations on news consumption:** **Gabriele Etta**, Matteo Cinelli, Alessandro Galeazzi, Carlo Michele Valensise, Mauro Conti, Walter Quattrociocchi, **IEEE Transactions on Computational Social Systems**.
  - Analyzed 1.5M posts from January to September 2020 on two social media that enforced opposite moderation methods, Twitter and Gab, to assess the interplay between news consumption and content regulation concerning COVID-19
  - **Findings:** the presence of moderation pursued by Twitter produces a significant reduction of questionable content, with a consequent affiliation toward reliable sources in terms of engagement and comments. Conversely, the lack of clear regulation on Gab results in the tendency of the user to engage with both types of content, showing a slight preference for the questionable ones which may account for a dissing/endorsement behavior. Twitter users show segregation toward reliable content with a uniform narrative. Gab, instead, offers a more heterogeneous structure where users, independent of their leaning, follow people who are slightly polarized toward questionable news.
- **Entropy and complexity unveil the landscape of memes evolution:** Carlo Michele Valensise, Alessandra Serra, Alessandro Galeazzi, **Gabriele Etta**, Matteo Cinelli, Walter Quattrociocchi, **Nature Scientific Reports**.
  - Studied the evolution of 2M visual memes published on Reddit over ten years, from 2011 to 2020 in terms of their statistical complexity and entropy
  - Employed deep neural approaches and a clustering algorithms to group memes according to the underlying templates
  - **Findings:** observed an exponential growth of the number of new created templates with a doubling time of approximately 6 months, and find that long-lasting templates are associated with strong early adoption. Notably, the creation of new memes is accompanied with an increased visual complexity of memes content, in a continuous effort to represent social trends and attitudes, that parallels a trend observed also in painting art.
- **COVID-19 infodemic on Facebook and containment measures in Italy, United Kingdom and New Zealand:** **Gabriele Etta**, Alessandro Galeazzi, Jamie Ray Hutchings, Connor Stirling James Smith, Mauro Conti, Walter Quattrociocchi, Giulio Valentino Dalla Riva, **PLOS ONE**.
  - Analyzed the UK, IT and NZ from an epidemiological perspective to characterize the impact of the pandemic and the strictness of the restrictions adopted

- Collected a total of 6M posts from Facebook to describe user news consumption behaviors with respect to the reliability of such posts
- **Findings:** posts referring to reliable sources are consistently predominant in the news circulation, and that users engage more with reliable posts rather than with posts referring to questionable sources. Furthermore, our modelling results suggest that factors related to the epidemiological and informational ecosystems can serve as proxies to assess the evolution of the infodemic.
- **Conspiracy theories and social media platforms:** Matteo Cinelli, **Gabriele Etta**, Michele Aivalle, Alessandro Quattrociocchi, Niccolò Di Marco, Carlo Valensise, Alessandro Galeazzi, Walter Quattrociocchi, **Current Opinion in Psychology**.
  - We provide an overview of information consumption patterns related to conspiracy content on four mainstream social media platforms (Facebook, Twitter, YouTube, and Reddit), with a focus on niche ones. Opinion polarisation and echo chambers appear as pivotal elements of communication around conspiracy theories.

## Conference and Summer School Activities

- **Social ComQuant 2022 Summer School (July 2022):** I was selected as one of the attendees of this summer school, covering several aspects related to Social Media Analysis, Bias in Machine Learning, NLP and Network Science.
- **Winter Workshop on Complex Systems (WWCS) 2022 (January 2022):** I was selected to attend this summer school, focusing on network science and its applications for interdisciplinary research.
- **Bertinoro Summer School 2021 (November 2021):** I was selected to attend this summer school where I presented the poster of the paper *Comparing the impact of social media regulations on news consumption*.
- **SocInfo 2020 Conference (October 2020):** presented the paper *Information Consumption and Social Response in a Segregated Environment: the Case of Gab* at Disinfo 2020 Workshop.

## Academic Awards

- **Winner of "Scholarships for Events on Complex Systems (SECS)"**
- **Winner of "Una tesi per la sicurezza nazionale" award:** I received this award by the Italian Government due to the contributions from my MSc thesis in the field of cybersecurity.

## Volunteering Experience

**Sep 2018 -** Data For Democracy

**Sep 2019** *Data Scientist*

Taking part of several no profit data science projects, with the goal of providing answers to social and civil problems.

## Organization Affiliations

**Nov 2020 -** Young Researchers of Complex Systems Society (yrCSS)

**Current** <http://yrcss.cssociety.org/>

**July 2021 -** Think Tank Period

**Current** <http://yrcss.cssociety.org/>

Member of Think Tank Period, involved in many online and offline campaigns to promote the LGBTQ+ culture and to provide wisdom about gender gap and feminism through talks and initiatives.