Dr Dimitra (Mimie) Liotsiou

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Profile & Research Interests

I am an early-career researcher in computer science, focusing on the development and application of computational methods and tools for analysing the social influence of online communications, mis-/disinformation and propaganda. I work on the development and application of AI methods from the fields of causal inference and of machine learning, as well as data science and social network analysis methods, while also drawing upon findings from the social sciences. I have experience of successful collaborations with industry and policy partners, and my research has received extensive media coverage.

Education

2014-18	PhD, Computer Science, University of Southampton. *Awards: Full scholarship (partly sponsored by Roke Manor Research Ltd.), Best Poster award and full-length paper (International Conference on Social Informatics 2016).*
2013-14	MSc, Operational Research, University of Southampton (2014). Grade: Distinction. *Awards: Full scholarship, dissertation prize.*
2009-12	BA (Hons.) Computer Science, University of Cambridge. Grade: 2.1 (67%). *Awards: Final-year dissertation prize, first prize in industry-commissioned group project competition.*

Research & Work Experience

2018-	Postdoctoral Researcher, Oxford Internet Institute, University of Oxford, UK
2014-16	Teaching Assistant, in Computer Science, University of Southampton, UK
2014	Operational Research Intern, Department of Health, Her Majesty's Government, UK
2011	Software Engineering Intern, Morgan Stanley, London, UK
2010	Programming Intern, Department of Physics, Aristotle University of Thessaloniki, Greece

Selected service/impact

- My research was cited by the UK House of Commons Digital, Culture, Media and Sport Committee in their Final Report on Disinformation and 'fake news' (2019).
- I successfully conducted research as part of a project for the US Senate Select Intelligence Committee, on the Russian IRA's propaganda campaigns on social media around the 2016 US elections. This work offers the most detailed and extensive insights on the subject to date, and its value was recognised by top US and EU policymakers, academics, and leaders of civil society and civil rights groups, while receiving extensive media coverage.
- My research on propaganda, misinformation and junk news has been featured in national and international media outlets as well as technology media outlets, such as The Washington Post and The New York Times (including on the front page), MSNBC (newsmagazine show interview), CNN, BBC, TechCrunch, Ars Technica.
- I have served as a reviewer for EPJ Data Science (2018) and the ACM Hypertext Conference (2019).

Publications

Peer-reviewed publications

Liotsiou, D., Moreau, L. and Halford, S. (2016) Social influence: From contagion to a richer causal understanding. In *International Conference on Social Informatics* (pp. 116-132). Springer, Cham.

White papers

Howard, P.N., Ganesh, B., Liotsiou, D., Kelly, J. and François, C., (2018) The IRA, social media and political polarization in the United States, 2012-2018. University of Oxford, UK: Project on Computational Propaganda. comprop.oii.ox.ac.uk. 46 pp.

Preprints

Liotsiou, D.**,** Kollanyi, B. and Howard, P.N. (2019) The Junk News Aggregator: Examining junk news posted on Facebook, starting with the 2018 US Midterm Elections. *arXiv preprint arXiv:1901.07920*.

Peer-reviewed conference presentations

Measuring the influence of online misinformation: A hierarchy of social media data. (2019) The 5th Annual International Conference on Computational Social Science (IC2S2), Amsterdam, Netherlands.

Social Influence: from contagion to a richer causal understanding. (2017) The 5th Annual UK Causal Inference Meeting, University of Essex, UK.

Working papers

Liotsiou, D., Ganesh, B., Howard, P.N. Engagement with IRA propaganda across social media around the 2016 US elections: Characteristics of the most popular content.

Liotsiou, D., Kollanyi, B. & Howard, P. Comparing social media engagement across traditional news, online news, and junk news, in the context of the 2018 US midterm elections.

Liotsiou, D., Moreau, L., & Halford, S. A causal methodological framework for conceptualising and measuring social influence in online communications using observational data.

Theses

Liotsiou D. (2018) Measuring the social influence of online communications at the individual and collective level: A causal framework. PhD Thesis.

Liotsiou D. (2014) Projecting dental care need in England over the next 20-30 years. MSc Thesis.

Liotsiou D. (2012) Parallelising ant colony optimisation-based solutions to the vehicle routing problem in Scala. BA (Hons) Thesis.

Other Talks and Presentations

Online information and misinformation: Engagement and influence. (2019) The Oxford Policy Exchange Network, University of Oxford, UK.

Social Influence: from contagion to a richer causal understanding. (2017) Data Natives Meeting. City University of London, UK.

Technical skills

Languages: Python (scientific stack: pandas, numpy, scipy, matplotlib, networkx, scikit-learn, keras), MySQL, Java, Scala, Unix shell; some experience in: R, HTML, CSS, C++ and C, ML, Prolog.
Frameworks and practices: Git, Spring, Perforce, JIRA, Scrum, Agile.
APIs: Facebook Graph API.
Operating Systems: Experienced in Mac OS X, Linux, MS Windows.
Software Packages: MS Office (incl. VBA), SPSS, SAS, Minitab.

Languages

Modern Greek (native), French (intermediate/fluent), English (very fluent).