Dr Dimitra (Mimie) Liotsiou

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PROFILE & RESEARCH INTERESTS

I am an early-career researcher in computer science, data science, and computational social science, working on developing computational methods and tools for analysing patterns of behaviour in online interactions. In particular, my focus is on measuring the influence of Internet-mediated communications, information, and misinformation on real-world outcomes. I develop and apply AI methods from the fields of causal inference and of machine learning, as well as data science and social network analysis methods, while drawing upon the social sciences. I have experience of successful interdisciplinary collaborations, including with industry practitioners and policymakers, and my research has been featured in leading media outlets.

EDUCATION

2014-18	PhD Computer Science, University of Southampton. *Awards: Full scholarship (EPSRC, Roke Manor Research), Best Poster award for poster accompanying full-length paper in proceedings (International Conference on Social Informatics 2016).* Supervisors: Profs. Luc Moreau & Susan Halford.
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 postdoctoral research on propaganda, misinformation and junk news was cited by the UK House of Commons Digital, Culture, Media and Sport Committee in their 'Final Report on Disinformation and 'fake news''. (2019). It has been featured in leading media outlets, such as The Washington Post and The New York Times (including on the front page), MSNBC (interview), BBC, TechCrunch, Ars Technica (interview).

- I have served as a reviewer for EPJ Data Science (2018) and the ACM Hypertext Conference (2019), among other venues.

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.* (Author copy)

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. (Author order: Oxford P.I., then Oxford postdocs alphabetically, then collaborators from Graphika).* (Link)

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

Liotsiou, D., and Howard, P.N (2019) Measuring the influence of online misinformation: A hierarchy of social media data. *The 5th Annual International Conference on Computational Social Science (IC2S2), Amsterdam, Netherlands.* (Author copy)

Liotsiou, D., Moreau, L., and Halford, S. (2017). Social Influence: From contagion to a richer causal understanding. *The 5th Annual UK Causal Inference Meeting, University of Essex, UK.*

Working papers

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

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

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

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 Selected Talks and Presentations

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

Liotsiou, D., Moreau, L., and Halford, S. (2017). Social Influence: From contagion to a richer causal understanding. Data Natives Meeting. City University of London, UK.

TECHNICAL SKILLS

Languages: Python (scientific stack: pandas, numpy, scipy, statsmodels, matplotlib, networkx, scikit-learn, keras, IPython/Jupyter Notebooks), MySQL, Java, Scala, Unix shell, LaTeX; Some experience in: R, HTML, CSS, C++ and C, ML, Prolog.
Frameworks & Practices: Git, Spring, Perforce, JIRA, Scrum, Agile.
APIs: RESTful APIs (HTTP-based), especially the Facebook Graph API.
Operating Systems: Experienced in Mac OS X, Linux, MS Windows.
Software Packages: MS Office (incl. VBA), SPSS, SAS, Minitab.

LANGUAGES

English (native-level), modern Greek (native), French (intermediate/fluent)