MARIAN-ANDREI RIZOIU – CV

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Web

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OVERVIEW

Dr Marian-Andrei Rizoiu is a lecturer in Computer Science at the University of Technology Sydney. He is interested in stochastic behavioural modelling of human actions online, at the intersection of applied statistics, artificial intelligence and social data science. He leads the Behavioral Data Science group, which studies human attention dynamics in the online environment, the emergence of influence and opinion polarisation.

His research has made several key contributions to online popularity prediction, real-time tracking and countering disinformation campaigns, and understanding shortages and mismatches in labour markets. First, he has developed theoretical models for online information diffusion, which can account for complex social phenomena, such as the rise and fall of online popularity, the spread of misinformation, or the adoption of disruptive technologies. Second, he built a skill-based real-time occupation transition recommender system usable in periods of massive disruptions (such as COVID-19). Third, he approached questions such as “Why did X become popular, but not Y?” and “How can problematic content be detected based solely on how it spreads?” with implications in detecting the spread of conspiracy theories and disinformation campaigns. Finally, he linked social media predicted personality profiles with worker occupations, applicable in building personalising career recommendations.

Marian-Andrei's research receives funding from selective funders such as Facebook Research and Defence Science and Technology (DST). In addition, he publishes in the most selective venues, such as the PNAS, PLOS ONE, PLOS Computations Biology, WWW, NeurIPS, IJCAI, and CIKM. As a result, his work has received significant media attention—including Bloomberg Business Week, Nature Index, BBC, and World Economic Forum.

Marian-Andrei disseminates his research to the broader public by regularly contributing to The Conversation. In addition, he also leverages his research to real societal impact by, for examples, serving as an expert for the NSW government's Defamation Law Reform or providing evidence for the Australian Federal Senate inquiry into media diversity. See more at www.rizoiu.eu.

PREVIOUS POSITIONS (IN REVERSE CHRONOLOGICAL ORDER):

Position	Level	Date from – to	Employer	FTE
Visiting Professor, Jean Monnet University	-	March 2019 – April 2019	Jean Monnet University, Saint-Etienne, France	1.0
Research Fellow in Computer science	Research Fellow (level B)	March 2016 – January 2019	College of Engineering and Computer Science, Australian National University	1.0
Research Scientist in Machine Learning	Research Scientist	May 2014 – March 2016	Optimisation Research Group, National ICT Australia (NICTA)	1.0
Postdoctoral Fellow	Research Fellow	July 2013 – May 2014	ERIC laboratory, Lumière University Lyon, France	1.0
Teaching assistant	Teaching assistant	Sept 2012 – June 2013	ERIC laboratory, Lumière University Lyon, France	0.5
Teaching assistant	Teaching assistant	Sept 2009 – Aug 2012	ERIC laboratory, Lumière University Lyon, France	0.25

EDUCATION AND QUALIFICATIONS:

Qualification	Institution / Organisation	Date of Award
Degree of Doctor of Philosophy in Computer Science	Lumière University Lyon, France	23 June 2013
Degree of Master of Science in Data Mining and Knowledge Engineering	University of Nantes, France	Sept 2009
Degree of Engineering in Systems and Computer Engineering	Polytechnic University of Bucharest, Romania	Sept 2009

AWARDS AND PRIZES:

Award	Institution / Organisation	Date of Award
PitchFest award for implementable disinformation prototype	NSW Smart Sensing Network & Klarrio Ltd.	11/2020
CNRS IDEXLYON award for research excellence (French National Research Agency, project ANR-16-IDEX-0005).	French National Centre for Scientific Research (CNRS), Saint-Etiènne, France	03/2019
Travel Awards – to travel to WWW'18	ANU Early Career Researchers grant scheme	04/2018
Travel Awards – to travel to ECML-PKDD'15	ANU Early Career Researchers grant scheme	06/2015
NVIDIA Titan Gpu	NVIDIA GPU Grant Program	01/2015
Postgraduate travel grant	Rhône-Alpes local government	05/2013
Best student paper award @ICTAI	IEEE 24th International Conference on Tools with Artificial Intelligence, Athens, Greece	11/2012
ERASMUS International student exchange award	European Erasmus exchange program – competitive scheme	06/2009

TEACHING AND LEARNING EXPERIENCE

SUMMARY OF SIGNIFICANT PERSONAL ACHIEVEMENTS IN EDUCATION

- **Breadth and quality of teaching.** I hold a pedagogical degree in higher education and I have a teaching experience of over 10 years. I have taught in four countries (Romania, France. Ukraine and Australia), and I have delivered more than 650 hours of lectures and tutoring for Undergraduates, Masters and Honours and I lectured in international excellence degree programs, such as the European Master of Excellence in Machine Learning and Knowledge Discovery and the Franco-Ukrainian Master of Business Intelligence and Statistics for Management (cooperation between the University Lumiere Lyon and the University of Kharkov, Ukraine).
- **Supervision completion.** More than 30 coursework Bachelors and Masters students
- **Student evaluation**. During my time at ANU, I consistently obtained higher than school average evaluations in the ANU's official Student Experience of Learning and Teaching.
- **Diverse teaching.** I taught a wide range of CS subjects (Programming, Calculus, Networking, Algorithms Design), of Machine Learning and Data Mining subjects (association rules mining, decision trees, clustering, symbolic learning, ensemble methods) and Social Media Analysis. This documents details the complete list of these courses.

COURSES AND UNITS DEVELOPMENT

At Australian National University (2016-2019) convened the course of Document Analysis, which is aimed at third year Bachelors and Masters students. I reconstructed the Social Media Analysis section using elements of the innovative blended learning approach: starting from a real social network dataset, the students are guided through social network construction and analysis. Examples and todos follow each other in a natural order, all into a Jupyter Notebook. My efforts received an excellent student feedback in SELT – ANU's official student feedback. Here below are several such samples:

> *"Marian was amazing and probably the best COMP lecturer I've had in ages,"*
>
> *"Engaging and entertaining. Simplifies a lot of complex concepts with ease."*
>
> *"Excellent lecturer skill, the lectures are well-paced and funny in general. Though have accents, but the speaking is at proper speed and is easily understandable."*
>
> *"Bloke loves his social media, enthusiasm"*

COURSE-BASED DEGREE SUPERVISIONS

2020:	**Directed Study 1** – Graph modelling approaches for motorway traffic flow prediction, Bachelor's equivalent, Zac Papachatgis
	Industry Study 2 – Open Banking Implementation, developing APIs for the Future of Banking, Bachelor's equivalent, Mitchell Fitzsimmons
2012 – 2013:	**Case Study (Masters European Erasmus Mundus DMKM)** Improve and optimise a topic extraction engine, from a corpus of texts of discussion forums.
	Research Initiation (Masters Computer Science) Improving the visualisation of online social networks, extracted from discussion web forums.
	Academic Tutor for student professional internship After 3 semesters of coursework, student did a one-month internships in industry (in banks, insurance companies or software development enterprises).
2011 – 2012:	**Case Study (Masters European Erasmus Mundus DMKM)** Develop a visualisation tool for online social networks, extracted from discussion web forums.
2010 – 2011:	**Case Study (Masters European Erasmus Mundus DMKM)** Improve an article retrieving platform from online media journals, develop parsers, creation of a data warehouse and textual topic extraction.
	Research Initiation (Masters Computer Science) Develop a temporal visualisation tool for textual topics, extracted from online discussion forums.
	Academic Tutor for student professional internship After 3 semesters of coursework, student did a one-month internships in industry (in banks, insurance companies or software development enterprises)
2009 – 2010:	**Research Initiation (Masters Computer Science)** Develop an article retrieving platform from online media journals, develop parsers, creation of a data warehouse and textual topic extraction.

TAUGHT SUBJECTS

Year	Sem	Course name (type and level) and brief description	*vol*
2020: Lecturer @UTS	Sem. 2	***Series of guest lectures*** **CSS1 student mentoring, course code: 41078 (50 students, undergrad)** Detecting organised opinion manipulation, detecting bots and trolls.	*8h*
	Sem. 1	***Guest lecture*** **Introduction to Data Analytics, course code: 31250 (50 students, undergrad)** Examples of analysis of real-world social media data.	*2h*
		Invited Lecture **Statistical Machine Learning (200 Honours and Masters students, ANU College of Engineering)** Applied data analytics and designing predictive experiments.	*3h*
2019: Lecturer @UTS	Sem. 2	***Invited Lecture*** **Computational Propaganda (20 postgrad students, ANU National Security College)** Detecting organised opinion manipulation, detecting bots and trolls.	*3h*
	Sem. 1	***Invited Lecturer*** **Research Methods Qualitative module (Honours and PhD students, ANU College of Engineering)** Apply quantitative, data science and machine learning for inferential problems.	*3h*
2018: Lecturer @ANU	Sem. 2	**Convener Document Analysis (3rd year Undergraduate and Honours)** Linear classifiers, clustering, graph theory, visualisation tools, centrality and community measures, sentiment analysis.	*40h*
	Sem. 1	**Research Methods Qualitative module (Honours and PhD students)** Apply quantitative, data science and machine learning for inferential problems.	*20h*

2017: Research Fellow @ANU	Sem. 2	**Convener Document Analysis (3rd year Undergraduate and Honours)** Linear classifiers, clustering, graph theory, visualisation tools, centrality and community measures, sentiment analysis.	*40h*
2016: Research Fellow @ANU	Sem. 2	**Convener Document Analysis (3rd year Undergraduate and Honours)** Linear classifiers, clustering, graph theory, visualisation tools, centrality and community measures, sentiment analysis.	*40h*
	Sem. 1	**Advanced Databases and Data Mining (3rd year Undergratuate)** Concepts of data warehousing and OLAP techniques, fundamental data mining algorithms.	*30h*
2015: adjunct @ANU	Sem. 2	**Document Analysis (3rd year Undergraduate and Honnors)** Notions of classification and clustering, graph theory, visualization tools, centrality and community measures, sentiment analysis.	*20h*
2013 – 2014: Teaching assistant University Lyon 2	Sem. 1	**Software Methodologies (Tutoring Masters Erasmus Mundus DMKM)** Development of computer systems, complex systems.	*15h*
		Numerical Machine Learning (Lecturing Master Erasmus Mundus DMKM) Association rules mining and ensemble methods.	*3h*
		Object Oriented Programming (Lecturing&Tutoring Masters IDSM Kharkov) Introduction in object-oriented programming, Java GUIs, APIs.	*25h*
	Sem. 2	**Data Mining (Tutoring Masters IDSM Kharkov)** Data analysis in R: processing and data cleaning, statistical analysis, data mining.	*14h*
2012 – 2013: Teaching assistant University Lyon 2	Sem. 1	**Software Methodologies (Tutoring Masters Erasmus Mundus DMKM)** Development of computer systems, complex systems.	*15h*
		Object Oriented Programming (Lecturing&Tutoring Masters Computer Science) Introduction in object-oriented programming, Java GUIs, APIs.	*25h*
		Scientific Calculation (Tutoring undergraduates) Programming in Octave, statistical and graphical calculations, time series analysis.	*14h*
		Numerical Machine Learning (Lecturing Master Erasmus Mundus DMKM) Association rules mining and ensemble methods.	*3h*
	Sem. 2	**UNIX Operating Systems et C programming language (Lecturing&Tutoring undergraduates IDS)** Usage and administration of UNIX systems, Bash programming, C language programming.	*25h*
		Symbolic learning (Tutoring Master Erasmus Mundus DMKM) Introduction to artificial intelligence, machine learning, Formal Concept Analysis, Decision Trees, Association Rules.	*15h*
		Object Oriented Programming (Lecturing&Tutoring Masters IDSM Kharkov) Introduction in object-oriented programming, Java GUIs, APIs.	*25h*
2011 – 2012: Teaching assistant University Lyon 2	Sem. 1	**Numerical Calculus (Lecturing&Tutoring undergraduates)** Personalised functions and VBA macros, Excel visual interfaces.	*21h*
		Scientific Calculation (Tutoring undergraduates) Programming in Octave, statistical and graphical calculations, time series analysis.	*14h*
		Numerical Machine Learning (Lecturing Master Erasmus Mundus DMKM) Association rules mining and ensemble methods.	*3h*
	Sem. 2	**Numerical Calculus (Lecturing&Tutoring undergraduates)** Personalised functions and VBA macros, Excel visual interfaces.	*42h*
2010 – 2011: Teaching assistant University Lyon 2	Sem. 1	**Initiation in programming in Visual Basic (Tutoring undergrads)** Notions of programming in Visual Basic, sort algorithms, data structures, graphical interfaces.	*21h*
		Object Oriented Programming (Tutoring Masters Computer Science) Introduction in object-oriented programming, Java GUI, API	*6h*
	Sem.	**Numerical Calculus (Lecturing&Tutoring undergraduates)**	*11h*

	2	Personalised functions and VBA macros, Excel visual interfaces.	
		ACCESS Databases (Tutoring undergraduates IDEA) Introduction to databases, tables, queries, reports.	*28h*
2009 – 2010: Teaching assistant	Sem. 1	**Initiation in programming in Visual Basic (Tutoring undergrads)** Notions of programming in Visual Basic, sort algorithms, data structures, graphical interfaces.	*42h*
University Lyon 2	Sem. 2	**Numerical Calculus (Lecturing&Tutoring undergraduates)** Personalised functions and VBA macros, Excel visual interfaces.	*11h*
		ACCESS Databases (Tutoring undergraduates) Introduction to databases, tables, queries, reports.	*14h*
2008 – 2009 : TA Polytechnic Bucharest	Sem. 1	**Communication Networks (Tutoring Engineering undergraduates)** Notions of networking, communication protocols (TCP, IP, SSH), routing protocols (OSPF, RIP, IS-IS), local networks.	*56h*
2007 – 2008 : TA Polytechnic Bucharest	Sem. 2	**Constructing and implementing algorithms (Tutoring Engineering undergraduates)** Initiation to the construction of algorithms, data structures, graph structures and algorithms, spatial and temporal complexity calculation.	*56h*
		Total:	*653h*

Other courses capable to teach:	Operating System, Programming Languages (C/C++, Java, Python, C# *etc.*), Algorithms, Data Structures, Assembler, Databases, Object Oriented Programming, Parallel Programming, Operating Systems Programming, Web Programming, Data Mining / Machine Learning.

RESEARCH AND INNOVATION EXPERIENCE

FUNDAMENTAL RESEARCH IMPACT

My significant contributions to the fundamental behavioural data science and web research fields focus on (i) **analysing social media dynamics using epidemic-inspired models**; (ii) **modelling of diffusion cascades and video popularity**; (iii) **labour markets dynamics and career transition recommendations.**

Analysing social media dynamics using epidemic-inspired models (15 published papers, 202 total citations). My recent work [9] proposes a mixture model which accounts jointly for all diffusions initiated by a single user (or referring to a single news article). In doing so, the obtained model described the user (or the news article) based on how it is discussed on social media. This result is significant as **it allows detecting disinformation without analysing the content**. Another major contribution is mathematically linking the two main classes of approaches for online information diffusion (epidemic models and Hawkes point processes) previously considered independent [11][19]. This contribution is significant because it **links two classes of models and because it paves the way to applying tools developed for one approach to the other**. This research was published at the top publication outlets in Data Science, Web Research and Machine Learning (WWW, CIKM, WSDM, PLOS Computational Biology, NeurIPS and ICML), in collaborations with epidemiologists (Imperial College of London, UK), machine learners (Data61 CSIRO; ANU; KAIST, Korea), social scientists (QUT; ANU) and data scientists (CNRS, France; ANU). The work was funded by a Facebook grant, an internal UTS FEIT cross-faculty grant and a National Security College's Green policy grant.

A point process-based modelling of diffusion cascades and video popularity (12 published papers, 390 total citations). My work on this topic is a major contribution to popularity modelling and prediction. It contributes to the development of theoretical point process modelling of how information cascades occur in online media. The model is parametric (i.e., its parameter values are directly interpretable) and it embeds social factors, such as the local user influence, social memory and content appeal. The results were significant: **the resulted models are the current state-of-the-art in predicting the total size of information bursts in Twitter [25] and in forecasting future popularity of online videos on Youtube [21][24]**. Subsequent work uses Bayesian learning for adapting the shape of the Hawkes kernels to data [10][12][16]. However, the practical applications of the models are even more significant: using the outputs of our proposed HIP model [24], we can build a two-dimensional visualisation of the viral potential of items (that is to say, what is the capacity of the

online item to become highly popular, given enough attention), which allows investigating questions such as "Why did X become popular, but not Y?". **The implications in advertising and marketing are major since our model allows identifying individuals for which publicity would be most effective, and it singles out the unpromotable content**. Furthermore, we have shown [23] that the success of a promotion campaign (the popularity boost which can be obtained given a promotion budget) can be accurately forecasted in advance and cost-effective promotion schedules can be constructed. This work was published in highly selective publication outlets, such as PLOS ONE, WWW, WSDM, ICWSM, CIKM, in collaboration with optimisation researchers (Georgia Tech, US; Max Plank, Germany; Uni Toronto, Canada), economists (UNSW) and evolutionary biologists (UNSW). This work was funded by a US Air Force grant (AOARD), a SIEF Cat.1 grant and an internal UTS FEIT cross-faculty grant.

Labour markets dynamics and career transition recommendations (5 published papers, 32 total citations). I made significant progress in data-driven career recommendation. People are forced to change jobs as new technologies automate labour, production is moved abroad, and economic crises unfold. However, successfully transitioning between jobs requires leveraging current skills and acquiring others, which can falter if the skills gap is too large. My recent work in [3][13] proposes a novel method to measure the similarities between sets of skills using real-time job advertisements data. The outcome is a **job recommender system to help workers identify job transition pathways personalised to their skills set, and it is currently implemented in a UTS2027 strategic project.** Furthermore, my research published in the prestigious Proceedings of the National Academy of Sciences (PNAS) [41] shows that occupations of individuals are closely linked to their personality profiles quantifies from social media data. This opens the way to personalising the career recommendations in the transitions recommender system. This work was published in highly selective publication outlets, such as PNAS, Journalism and BigData, in collaboration with economists (UTS, UNSW), psychologists (Uni Melbourne) and journalists (UTS). This work was supported by my Cat.1 grant (SIEF) and strategic internal UTS2027 funding.

PUBLICATION LIST

- (as of 17 May 2021) I have published 44 publications (31 fully refereed conference papers, 10 refereed journal articles, 2 peer-reviewed book chapters and 1 patent).
- I have a lifetime H-index of 14; i10-index of 20; 799 citations (Google Scholar, 09/07/21)
- I have published in **the most selective venues, such as the Proceedings of the National Academy of Sciences (PNAS), PLOS ONE, PLOS Computational Biology, The Web Conf.**

Chapters

1. **Rizoiu, M. A.,** Lee, Y., Mishra, S., & Xie, L. (2017). A Tutorial on Hawkes Processes for Events in Social Media. In S. -F. Chang (Ed.), *Frontiers of Multimedia Research* (pp. 191-218). doi:10.1145/3122865.3122874
2. **Rizoiu, M. A.**, & Velcin, J. (2011). Topic extraction for ontology learning. In *Ontology Learning and Knowledge Discovery Using the Web: Challenges and Recent Advances* (pp. 38-60). doi:10.4018/978-1-60960-625-1.ch003

Conferences

1. Largeron, C., Mardale, A., & **Rizoiu, M. A.** (2021). Linking the Dynamics of User Stance to the Structure of Online Discussions. Doi:10.1007/978-3-030-74251-5_22
2. Dawson, N., **Rizoiu, M. A.**, Johnston, B., & Williams, M. -A. (2021). Predicting Skill Shortages in Labor Markets: A Machine Learning Approach. In *2020 IEEE International Conference on Big Data (Big Data)*. virtual: IEEE. doi:10.1109/bigdata50022.2020.9377773
3. Ram, R., Kong, Q., & **Rizoiu, M. A.** (2021). Birdspotter: A Tool for Analysing and Labeling Twitter Users. In *Proceedings of the 14th ACM International Conference on Web Search and Data Mining*. online: ACM. Doi:10.1145/3437963.3441695
4. Mihaita, A. -S., Papachatgis, Z., & **Rizoiu, M. A.** (2020). Graph modelling approaches for motorway traffic flow prediction. In *23rd IEEE International Conference on Intelligent Transportation Systems (ITSC'20) (pp. 1 – 8). Rhodes, Greece (2020)*. Piscataway, USA: IEEE. doi:10.1109/ITSC45102.2020.9294744
5. Kong, Q., Ram, R., & **Rizoiu, M. A.** (2020). Evently: Modeling and Analyzing Reshare Cascades with Hawkes Processes. Doi:10.1145/3437963.3441708
6. Wu, S., **Rizoiu, M. A.**, & Xie, L. (2020). Variation across Scales: Measurement Fidelity under Twitter Data Sampling. In *Proceedings of the Fourteenth International AAAI Conference on Web and Social Media* Vol. 14 (pp. 715-725). USA: AAAI. Retrieved from https://ojs.aaai.org/index.php/ICWSM/article/view/7337

7. Kong, Q., **Rizoiu, M. A.**, & Xie, L. (2020). Describing and Predicting Online Items with Reshare Cascades via Dual Mixture Self-exciting Processes. In *International Conference on Information and Knowledge Management, Proceedings* (pp. 645-654). doi:10.1145/3340531.3411861
8. Zhang, R., Walder, C. J., Bonilla, E. V., **Rizoiu, M. A.**, & Xie, L. (2020). Quantile Propagation for Wasserstein-Approximate Gaussian Processes. In H. Larochelle (Ed.), *Advances in Neural Information Processing Systems 33 (NeurIPS 2020)*. Virtual Conference. Retrieved from https://proceedings.neurips.cc/
9. Kong, Q., **Rizoiu, M. A.**, & Xie, L. (2020). Modeling Information Cascades with Self-exciting Processes via Generalized Epidemic Models. In *PROCEEDINGS OF THE 13TH INTERNATIONAL CONFERENCE ON WEB SEARCH AND DATA MINING (WSDM '20)* (pp. 286-294). Houston, TX: ASSOC COMPUTING MACHINERY. Doi:10.1145/3336191.3371
10. Zhang, R., Walder, C., & **Rizoiu, M. A.** (2020). Variational Inference for Sparse Gaussian Process Modulated Hawkes Process. In *Proceedings of the AAAI Conference on Artificial Intelligence* Vol. 34 (pp. 6803-6810). New York Hilton Midtown, New York: Association for the Advancement of Artificial Intelligence (AAAI). doi:10.1609/aaai.v34i04.6160
11. Dawson, N. J., **Rizoiu, M. A.**, Johnston, B., & Williams, M. -A. (2020). Adaptively selecting occupations to detect skill shortages from online job ads. In *IEEE International Conference on Big Data (IEEE Big Data 2019)* (pp. 1-7). Los Angeles, CA, USA.
12. Mihaita, A. -S., Li, H., He, Z., & **Rizoiu, M. A.** (2019). Motorway Traffic Flow Prediction using Advanced Deep Learning. In *2019 IEEE Intelligent Transportation Systems Conference (ITSC)* (pp. 1683-1690). IEEE. doi:10.1109/ITSC.2019.8916852
13. Ram, R., & **Rizoiu, M. A.** (2019). A social science-grounded approach for quantifying online social influence. In *Australian Social Network Analysis Conference (ASNAC'19)* (pp. 2).
14. Zhang, R., Walder, C., **Rizoiu, M. A.**, & Xie, L. (2019). Efficient Non-parametric Bayesian Hawkes Processes. In *Proceedings of the Twenty-Eighth International Joint Conference on Artificial Intelligence* (pp. 4299-4305). USA: International Joint Conferences on Artificial Intelligence Organization. doi:10.24963/ijcai.2019/597
15. Mihăiță, A. S., Liu, Z., **Rizoiu, M. A.**, & Cai, C. (2019). Arterial incident duration prediction using a bi-level framework of extreme gradient-tree boosting. In *ITS World Congress 2019 (ITSWC2019), Singapore*.
16. Kong, Q., **Rizoiu, M. A.**, Wu, S., & Xie, L. (2018). Will This Video Go Viral: Explaining and Predicting the Popularity of Youtube Videos. In *The Web Conference 2018 - Companion of the World Wide Web Conference, WWW 2018* (pp. 175-178). doi:10.1145/3184558.3186972
17. **Rizoiu, M. A.**, Mishra, S., Kong, Q., Carman, M., & Xie, L. (2018). SIR-Hawkes: Linking Epidemic Models and Hawkes Processes to Model Diffusions in Finite Populations. In *WEB CONFERENCE 2018: PROCEEDINGS OF THE WORLD WIDE WEB CONFERENCE (WWW2018)* (pp. 419-428). Lyon, FRANCE: ASSOC COMPUTING MACHINERY. doi:10.1145/3178876.3186108
18. **Rizoiu, M. A.**, Graham, T., Zhang, R., Zhang, Y., Ackland, R., & Xie, L. (2018). #DebateNight: The role and influence of socialbots on twitter during the first 2016 US presidential debate. In *12th International AAAI Conference on Web and Social Media, ICWSM 2018* (pp. 300-309). USA..
19. Wu, S., **Rizoiu, M. A.**, & Xie, L. (2018). Beyond views: Measuring and predicting engagement in online videos. In *12th International AAAI Conference on Web and Social Media, ICWSM 2018* (pp. 434-443). USA: AAAI.
20. Mishra, S., **Rizoiu, M. A.**, & Xie, L. (2018). Modeling popularity in asynchronous social media streams with recurrent neural networks. In *12th International AAAI Conference on Web and Social Media, ICWSM 2018* (pp. 201-210). USA: AAAI.
21. **Rizoiu, M. A.**, & Xie, L. (2017). Online popularity under promotion: Viral potential, forecasting, and the economics of time. In *Proceedings of the 11th International Conference on Web and Social Media, ICWSM 2017* (pp. 182-191).
22. **Rizoiu, M. A.**, Xie, L., Sanner, S., Cebrian, M., Yu, H., & Van Henteryck, P. (2017). Expecting to be HIP: Hawkes Intensity Processes for Social Media Popularity. In *PROCEEDINGS OF THE 26TH INTERNATIONAL CONFERENCE ON WORLD WIDE WEB (WWW'17)* (pp. 735-744). Perth, AUSTRALIA: ASSOC COMPUTING MACHINERY. Doi:10.1145/3038912.3052650
23. Mishra, S., **Rizoiu, M. A.**, & Xie, L. (2016). Feature Driven and Point Process Approaches for Popularity Prediction. In *CIKM'16: PROCEEDINGS OF THE 2016 ACM CONFERENCE ON INFORMATION AND KNOWLEDGE MANAGEMENT* (pp. 1069-1078). IUPUI, Indianapolis, IN: ASSOC COMPUTING MACHINERY. Doi:10.1145/2983323.2983812

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25. **Rizoiu, M. A.**, Xie, L., Caetano, T., & Cebrian, M. (2016). Evolution of Privacy Loss in Wikipedia. In *PROCEEDINGS OF THE NINTH ACM INTERNATIONAL CONFERENCE ON WEB SEARCH AND DATA MINING (WSDM'16)* (pp. 215-224). San Francisco, CA: ASSOC COMPUTING MACHINERY. doi:10.1145/2835776.2835798
26. Kim, Y. M., Velcin, J., Bonnevay, S., & **Rizoiu, M. A.** (2015). Temporal multinomial mixture for instance-oriented evolutionary clustering. In *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)* Vol. 9022
27. **Rizoiu, M. A.** (2013). Semi-supervised structuring of complex data. In *IJCAI International Joint Conference on Artificial Intelligence* (pp. 3239-3240)
28. **Rizoiu, M. A.**, Velcin, J., & Lallich, S. (2012). Structuring typical evolutions using Temporal-Driven Constrained Clustering. In *2012 IEEE 24TH INTERNATIONAL CONFERENCE ON TOOLS WITH ARTIFICIAL INTELLIGENCE (ICTAI 2012), VOL 1* (pp. 610-617). Athens, GREECE: IEEE. doi:10.1109/ICTAI.2012.88
29. Musat, C. C., Velcin, J., Trausan-Matu, S., & **Rizoiu, M. A.** (2011). Improving topic evaluation using conceptual knowledge. In *IJCAI International Joint Conference on Artificial Intelligence* (pp. 1866-1871). doi:10.5591/978-1-57735-516-8/IJCAI11-312
30. Musat, C., Velcin, J., **Rizoiu, M. A.**, & Trausan-Matu, S. (2011). Concept-based topic model improvement. In *Studies in Computational Intelligence* Vol. 369 (pp. 133-142). doi:10.1007/978-3-642-22732-5_12
31. **Rizoiu, M. A.**, Velcin, J., & Chauchat, J. -H. (2010). Regrouper les données textuelles et nommer les groupes à l'aide de classes recouvrantes.. In S. B. Yahia, & J. -M. Petit (Eds.), *EGC* Vol. RNTI-E-19 (pp. 561-572). Cépaduès-Éditions. Retrieved from http://editions-rnti.fr/?procid=100096

Internet publications

1. McCarthy, P., & **Rizoiu, M. A.** (2021). *We spent six years scouring billions of links, and found the web is both expanding and shrinking*. The Conversation. Retrieved from https://theconversation.com/
2. Dawson, N., & **Rizoiu, M. A.** (2020). *Coronavirus infecting Australian jobs: vacancy rates down since early February*. The Conversation. Retrieved from https://theconversation.com/
3. Kern, M. L., **Rizoiu, M. A.**, & McCarthy, P. X. (2019). *Robot career advisor: AI may soon be able to analyse your tweets to match you to a job*. The Conversation. Retrieved from https://theconversation.com/
4. **Rizoiu, M. A.** (2019). *Can hiding likes make Facebook fairer and rein in fake news? The science says maybe*. The Conversation. Retrieved from https://theconversation.com/

Journal articles

1. Dawson, N., Williams, M.-A., & **Rizoiu, M. A.** (2021). Skill-driven Recommendations for Job Transition Pathways. *PLOS ONE*. http://arxiv.org/abs/2011.11801
2. McCarthy, P. X., Gong, X., Eghbal, S., Falster, D. S., & **Rizoiu, M. A.** (2021). Evolution of diversity and dominance of companies in online activity.. *PloS one*, *16*(4), e0249993. doi:10.1371/journal.pone.0249993
3. Unwin, H. J. T., Routledge, I., Flaxman, S., **Rizoiu, M. A.**, Lai, S., Cohen, J., . . . Bhatt, S. (2021). Using Hawkes Processes to model imported and local malaria cases in near-elimination settings. *PLOS Computational Biology*. doi:10.1371/journal.pcbi.1008830
4. Dawson, N., Molitorisz, S., **Rizoiu, M. A.**, & Fray, P. (2021). Layoffs, Inequity and COVID-19: A Longitudinal Study of the Journalism Jobs Crisis in Australia from 2012 to 2020. *Journalism*. Doi:10.1177/1464884921996286
5. Kern, M. L., McCarthy, P. X., Chakrabarty, D., & **Rizoiu, M. A.** (2019). Social media-predicted personality traits and values can help match people to their ideal jobs.. *Proceedings of the National Academy of Sciences of the United States of America*, *116*(52), 26459-26464. doi:10.1073/pnas.1917942116
6. Wu, S., **Rizoiu, M. A.**, & Xie, L. (2019). Estimating attention flow in online video networks. *Proceedings of the ACM on Human-Computer Interaction*, *3*(CSCW). Doi:10.1145/3359285
7. Kim, D., Graham, T., Wan, Z., & **Rizoiu, M. A.** (2019). Analysing user identity via time-sensitive semantic edit distance (t-SED): a case study of Russian trolls on Twitter. *Journal of Computational Social Science*, *2*(2), 331-351. doi:10.1007/s42001-019-00051-x

8. **Rizoiu, M. A.**, Velcin, J., & Lallich, S. (2014). How to Use Temporal-Driven Constrained Clustering to Detect Typical Evolutions. *INTERNATIONAL JOURNAL ON ARTIFICIAL INTELLIGENCE TOOLS*, *23*(4), 26 pages. doi:10.1142/S0218213014600136
9. **Rizoiu, M. A.**, Velcin, J., & Lallich, S. (2015). Semantic-enriched visual vocabulary construction in a weakly supervised context. *INTELLIGENT DATA ANALYSIS*, *19*(1), 161-185. doi:10.3233/IDA-140702
10. **Rizoiu, M. A.**, Velcin, J., & Lallich, S. (2013). Unsupervised feature construction for improving data representation and semantics. *JOURNAL OF INTELLIGENT INFORMATION SYSTEMS*, *40*(3), 501-527. doi:10.1007/s10844-013-0235-x
11. Muşat, C., Trăuşan-Matu, S., Velcin, J., & **Rizoiu, M. A.** (2012). Automatic extraction of conceptual labels from topic models. *UPB Scientific Bulletin, Series C: Electrical Engineering*, *74*(2), 57-68.

Patents

1. McCarthy, P., Gong, E., Kern, M., & **Rizoiu, M. A.** (2021). *2021900174, METHODS AND SYSTEMS FOR RECOMMENDING JOBS*.

Working Papers

1. **Rizoiu, M. A.**, Soen, A., Li, S., Dong, L., Menon, A. K., & Xie, L. (2021). *Interval-censored Hawkes processes*.
2. Dawson, N., **Rizoiu, M. A.**, & Williams, M. -A. (2020). *Job Transitions in a Time of Automation and Labor Market Crises*.
3. Nurek, M., Michalski, R., & **Rizoiu, M. A.** (2020). *Hawkes-modeled telecommunication patterns reveal relationship dynamics and personality traits*.
4. Mihaita, A. -S., Li, H., & **Rizoiu, M. A.** (2020). *Traffic congestion anomaly detection and prediction using deep learning*.
5. **Rizoiu, M. A.**, Wang, T., Ferraro, G., & Suominen, H. (2019). *Transfer Learning for Hate Speech Detection in Social Media*.
6. **Rizoiu, M. A.**, Guille, A., & Velcin, J. (2015). *CommentWatcher: An Open Source Web-based platform for analysing discussions on web forums.*
7. Kong, Q., Booth, E., Bailo, F., Johns, A., & **Rizoiu, M. A.** (2021). *Mapping Online Problematic Content using Ethnographic and Qualitative Analysis augmented with Human-in-the-loop Machine Learning*.

RESEARCH FUNDING (SECURED)

2021: UTS FEIT Cross-Faculty Scheme, "**The dynamics of disinformation across traditional and social media**", $20K, Lead-CI.
- **CI team: M.A. Rizoiu** (UTS), A. Johns (UTS), F. Bailo (UTS), A. Kruger (UTS), D. Wilding, M. Attard.
- **Summary:** Understand the dynamic interaction between the traditional and social media ecosystems that results in the flow of disinformation and problematic content.
- **Role:** I am the lead-CI of this project: I constructed the idea, built the team, lead the development of the proposal and am managing the delivery. Within the project, I supervise the engineering team responsible with building the data gathering and annotation prototype.

2021 – 2022: Defence Science and Technology (DST), Modelling Complex Warfare grants (MCW) Modelling in the Gray Zone (MGZ) stream. **"Forensic analysis and real-time detection of dis-information campaigns"**, $100K, lead-CI.
- **CI team: M.A. Rizoiu** (UTS), D. Kernot (DST)
- **Summary:** Real-time detection of disinformation campaigns using multi-faceted social media analysis.
- **Role:** I am the sole academic CI on this project. I drive the research agenda, supervise the postdoc and two students involved in the project, and I am responsible for the deliverables to DST.

2020-2021: Facebook Content Policy Research Grants, **"Using computational modelling of user behaviour and machine learning to counter the diffusion of hate speech across social media"**, $86k, CI.
- CI team: A. Johns (UTS), F. Bailo (UTS), **M.A. Rizoiu** (UTS).
- **Summary:** Use ethnographic methods to identify and monitor a number of persona associated with hate speech diffusion targeting vulnerable populations.

- **Role**: I am responsible with the construction of the Active Learning model for detecting problematic speech; I supervise the Research Assistant implementing the model; I lead the computational papers and deliverables.

2019 – 2020: National Security College's Green policy grants, "**Tracking Disinformation Campaigns Across Terrains: Implications for Policy**", $50K, CI.
- **CI team:** J. Hunt (ANU), **M.A. Rizoiu** (UTS)
- **Summary:** Quantify the scale of the problem of disinformation in order to co-design responses with policy partners.
- **Role**: I lead the research agenda, I recruited two Honours students to help with the research, I manage communication with the research team, I lead the writing of the paper and most deliverables.

2019 – 2020: UTS FEIT Cross-Faculty Scheme, "**SocialSense: Making sense of the opinions and interactions of online users**", $20K, CI.
- **CI team:** F. Bailo (UTS), A. Johns (UTS), **M.A. Rizoiu** (UTS)
- **Summary:** Study the diffusion and polarization of opinions online, mixing an ethnographic approach with computational modelling of behaviour.
- **Role**: I lead the development of the diffusion models across platform boundaries; I supervise the research assistant who implements the models and the student helping with the research; I lead the writing of the computer science paper and deliverables.

2019: Science and Industry Endowment Fund, "**Adaptive skills taxonomy to enable labour market agility"**, $350K, CI.
- **CI team:** C. Mason (Data61 CSIRO), **M.A. Rizoiu** (UTS), A. Krumpholz (Data61), A. Duenser (Data61), A. Reeson (Data61), C. Chen (Data61), G. Walker (Data61), K. Trinh (Data61), R. Sparks (Data61), S. Wan, (Data61) Y. Zhao (Data61)
- **Summary:** Understand the change of demand and supply of skills in a timely and efficient manner in order to provide information to inform employment decisions.
- **Role**: I lead the development of copula-based methods to link posting activity between different geographical and temporal regions; I supervise the postdoctoral fellow developing the stochastic tools; I lead the writing of the report and the deliverable for the modelling section of the project.

2019 Industrial consulting with a merger/acquisition. $10.5k, sole-CI.
- **CI team: M.A. Rizoiu** (UTS)
- **Summary:** The industrial partner wants to acquire a Singapore start-up which deployed Machine Learning techniques to semi-automatise the processes. The due diligence included the evaluation of the techniques deployed.
- **Role**: I read technical documentation, I interviewed the founders of the start-up, I evaluated the technology, I wrote a lengthy report about the findings, and delivered an in-person Q& A session with the acquirer.

2018 ANU Social Science Cross-College Grants, **"Advanced tools and methods for analysing the role and influence of bots in social media"**, $50K, Lead-CI.
- **CI team: M.A. Rizoiu** (UTS), T. Graham (QUT), R. Ackland (ANU), L. Xie (ANU), D. Halpin (ANU), J. Davis (ANU).
- **Summary:** The impact of automation in the form of socialbots on deliberative democracy – how socialbots hijack the public discourse.
- **Role**: I lead the development of the grant proposal, developed the idea, managed the project (including finances). I lead the Computer Science team developing socialbots detection algorithms; I delivered the final report.

2018 ANU Social Science Cross-College Grants, **"Identify Hate Speech and Predict Mass Atrocities"**, $30K, Lead-CI.
- **CI team: M.A. Rizoiu** (UTS), B. Goldsmith (ANU), H. Suominen (ANU), G. Ferraro (Data61 CSIRO), S. Chernykh (ANU), K. Dowding (ANU), C. Miller (ANU)
- **Summary:** Can "hate speech" be reliably measured to predict political violence?
- **Role**: I lead the development of the grant proposal, developed the idea, managed the project (including finances). I lead the Computer Science team developing hate speech detection algorithms; I delivered the final report.

RESEARCH FUNDING (SUBMITTED, IN REVIEW)

1. **ARC Discovery Project** – "Inoculating and Protecting communities against disinfodemics", $571K
   CI team: A. Johns (UTS), **M.A. Rizoiu** (UTS), F. Bailo (UTS), J. Macnamara (UTS)

2. **National Intelligence and Security Discovery Research Grants (NISDRG)** – "Understanding the dynamics of and motivations for sharing disinformation", $598K
   CI team: P.Henman (UQ), T. Graham (QUT), J Rimer (UQ), **M.A. Rizoiu** (UTS).

3. **OPUS '20** – "Streaming social data", $313K
   CI team: R. Michalsky (Wrocław University of Science and Technology), **M.A. Rizoiu** (UTS)

HDR STUDENT SUPERVISION

1. **Currently supervising** 7 PhD students (5 as primary supervisor, 2 as co-supervisor) and 4 Honours students (primary supervisor).

2. I have **successfully supervised and graduated** more than 23 research students and staff – 3 PhD students (co-supervisor), 10 Honours students (primary supervisor), 1 postdoc, 4 Research Assistants, 1 visiting postgrad student and 4 summer scholar students.

Details of research degree students who completed their PhDs	**Completion**
Joint supervisor, PhD thesis – Changing Labour Market Dynamics in Australia: Skill Shortages, Job Transitions, and Artificial Intelligence Technology Adoption, Nikolas Dawson	2021
Joint supervisor, PhD thesis – Measuring Collective Attention in Online Content: Sampling, Engagement, and Network Effects, Siqi Wu	2020
Joint supervisor, PhD thesis – Linking Models for Collective Attention in Social Media, Swapnil Mishra	2019
Details of research PhD students currently supervised	**Start Date**
Lead supervisor, PhD thesis – Modelling Cross-Platform Influence in Partially-Observed Information Diffusions, Pio Calderon	2021
Lead supervisor, PhD thesis – Online discourse aggregation modelling via a market mechanism, Rohit Ram	2020
Lead supervisor, PhD thesis – Identifying bias through semantic relationship analysis, Dima Galat	2020
Joint supervisor, PhD thesis – Modelling traffic disruptions impact using machine learning and traffic simulation, Arthur Grigorev	2020
Joint supervisor, International PhD thesis – Linking communication patterns and psychological traits, Mateusz Nurek	2019
Lead supervisor, PhD thesis – Non-parametric Bayesian Estimation of Hawkes Triggering Kernels, Rui Zhang	2018
Lead supervisor, PhD thesis – Linking Epidemic Models and Self-exciting Processes for Online and Offline Diffusions, Quyu Kong	2018
Details of research Honours and Masters students	**Start Date**
Lead supervisor, Honours thesis – Disinformation in Australian Politics, Thomas Willingham	2021
Lead supervisor, Honours thesis – Opinion polarisation dynamics: how information exposure evolves stance towards contentious topics, Duy Khuu	2021
Lead supervisor, Honours thesis – Opinion polarisation dynamics: building a stance detector for opinion, Andrew Law	2021
Lead supervisor, Honours thesis – Transfer Learning for the Social Media Detection of Hate Speech, Frankie Yuan	2021
Lead supervisor, Honours thesis – Profiling information warfare in social media: forensic analysis of the 2019 Australian elections, Kriti Tripathi	2020
Lead supervisor, Honours thesis – Labour dynamics in the age automation: detecting emergent skills in labour markets from job ads description, Yaozhong Liu	2020
Joint supervisor, International Masters thesis – RNN-based approaches for polariation dynamics, Yogesh Kumar Pilli	2020
Lead supervisor, Honours thesis – Measuring Social Influence on Social Media with Temporal Point Processes, Rohit Ram	2019
Joint supervisor, International Masters thesis – Information Diffusion in Online Communities, Andrei Mardale	2019

Lead supervisor, Summer student – Traffic flow prediction, Haowen Li 2019

Lead supervisor, Honours thesis – A HIPPer approach to interval-censored Hawkes process, Shidi Li 2019

Lead supervisor, Summer student – The HIPPER approach to interval censored processes, Shidi Li 2019

Lead supervisor, Summer student – Deep Learning for incident prediction, Zongyang He 2019

Lead supervisor, Honours thesis – Temporal-aware semantic edit distance for Twitter troll detection, Zimin Wan 2018

Joint supervisor, Summer student – Traffic incident duration prediction, Zheyuan (David) Liu 2018

Lead supervisor, Honours thesis – The Bot Among Us: Disrupting Truth and Reason Through Online Social media, Yifei Zhang 2018

Lead supervisor, Honours thesis – Variational Bayesian Hawkes Processes, Rui Zhang 2018

Lead supervisor, Honours thesis – Modeling Information Diffusion in Social Network, Quyu Kong 2017

Lead supervisor, Visiting Postgrad – The psychometric profiles of Twitter users, Shubing Shan 2017

Lead supervisor, Honours thesis – The diversity of Online Environment, Sina Eghbal 2017

Lead supervisor, Honours thesis – Analyzing diffusion patterns in large social networks, Mingyuan Cui 2015

SERVICE AND ENGAGEMENT

GRADUATE EXAMINATIONS

Examination committee member, University of Technology Sydney, Australia, Hou W (lead-supervisor: Longbing Cao) 2020

COMMITTEES AND SELECTION PANELS

University of Technology Sydney – Postdoctoral researcher recruitment panel 2021

University of Technology Sydney – Postdoctoral research recruitment panel – Fostering Global Digital Citizenship project 2019

University of Technology Sydney – IRC148268 Postdoctoral researcher recruitment panel 2019

University of Technology Sydney – ARC postdoctoral researcher interview 2019

PROFESSIONAL ACTIVITY

Reviewing / Refereeing

Area chair at the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases 2021

Network Science 2021

ACM Conference on Computer-Supported Cooperative Work and Social Computing 2021

Statistics and Computing 2021

Program Committee for The Web Conference 2021 2020

Journal of Complex Networks 2020

Journal of Artificial Intelligence Research 2020

Biometrical Journal: journal of mathematical methods in biosciences 2020

ACM Transactions on Information Systems 2020

IEEE Conference on Decision and Control 2020

Research Methods in Medicine and Health Sciences 2020

ACM Transactions on Information Systems	2020
ACM Computing Surveys	2020
Program Committee of The Web Conference	2019
Workshop on Social Network Analysis in Applications	2019
EPJ Data Science	2019
European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases.	2019
ACM Transactions on the Web	2019
International AAAI Conference on Web and Social Media	2019
The Web Conference	2018-2019
AAAI Conference on Artificial Intelligence. AAAI Conference on Artificial Intelligence	2018

Broadcast or Media Engagements

Interviewed on "Zap Aeiou – Seis anos e mil milhões de links depois, cientistas concluem que a Internet está a crescer (e a encolher)", Zap Aeiou	2021
Interviewed on "World Economic Forum – What these researchers discovered after studying the internet for 6 years", World Economic Forum	2021
Interviewed on "Australian Science – We spent six years scouring billions of links, and found the web is both expanding and shrinking", Australian Science	2021
Interviewed on "Radio Adelaide – Dynamics of online diversity and dominance on the web", Radio Adelaide	2021
Interviewed on "RT News -- 60-70% of world's attention focused on just 10 online domains, according to latest research", RT News	2021
Interviewed on "Science Alert -- The Same Handful of Websites Are Dominating The Web And That Could Be a Problem", Science Alert	2021
Interviewed on "Canaltech Brasil – Internet mundial cresce ao mesmo tempo em que está cada vez menor; entenda", Canaltech Brasil	2021
Interviewed on "TechXplore – We spent six years scouring billions of links, and found the web is both expanding and shrinking", TechXplore	2021
Interviewed on "ELE Times – Category Killers of the Internet are Significantly Reducing Online Diversity", ELE Times	2021
Interviewed on "Foreign Affairs – MIL-Evening Report: We spent six years scouring billions of links, and found the web is both expanding and shrinking", Foreign Affairs	2021
Interviewed on "News Break – We spent six years scouring billions of links, and found the web is both expanding and shrinking", News Break	2021
Interviewed on "MediaNet – Category killers of the internet are significantly reducing online diversity", MediaNet	2021
Interviewed on "The Conversation – We spent six years scouring billions of links, and found the web is both expanding and shrinking", The Conversation	2021
Interviewed on "Mirage News – Category killers of internet are significantly reducing online diversity", Mirage News	2021
Interviewed on "TechXplore – Category killers of the internet are significantly reducing online diversity", TechXplore	2021
Interviewed on "EurekAlert – Category killers of the internet are significantly reducing online diversity", EurekAlert	2021
Interviewed on "ABC News – Facebook promised to ban anti-vaxxers. But pages are still up and they've been selling t-shirts", ABC News	2021
Interviewed on "SYN Media – Radio interview about the ways misinformation spreads through social media and how that can affect us.", SYN Media, Melbourne	2020
Interviewed on "The Conversation – Coronavirus infecting Australian jobs: vacancy rates down since early February", The Conversation	2020
Interviewed on "Nautil.us – Scientists Can Predict Your Job By Your Social-Media Personality", Nautil.us	2020

Interviewed on "Bloomberg Businessweek – The Best Way to Change Your Job Is to Focus on Your Personality", Bloomberg Businessweek	2020
Interviewed on "Nature Index – Scientists are curious and passionate and ready to argue", Nature Index	2020
Interviewed on "BBC – How your Twitter feed could help find your dream job", BBC	2020
Interviewed on "The Conversation – Robot career advisor: AI may soon be able to analyse your tweets to match you to a job", The Conversation	2019
Interviewed on "2ser – Facebook and Fake News"	2019
Interviewed on "ABC radio – hiding likes make Facebook fairer", ABC radio	2019
Interviewed on "Radio Adelaide – Hiding the Number Of Likes On Social Media", Radio Adelaide	2019
Interviewed on "The Conversation – Can hiding likes make Facebook fairer and rein in fake news? The science says maybe", The Conversation	2019
Interviewed on "Sage Research Methods – Studying Online Video Popularity with Stochastic Computational Models", Sage Research Methods	2019

Other Unpublished Scholarly Presentations

Mapping and countering disinformation and hate speech in online social media, presented to Facebook Content Policy Research Initiative conf. Youtube video	2020

Community Contributions

Legal / Civil rights, Media Entertainment and Arts Alliance: Our paper "Layoffs, Inequity and COVID-19: A Longitudinal Study of the Journalism Jobs Crisis in Australia from 2012 to 2020" (Nik Dawson, Sacha Molitorisz, Marian-Andrei Rizoiu, Peter Fray) was used today (12 March 2021) as evidence in the Senate inquiry into media diversity by Marcus Strom, the president of Media Entertainment and Arts Alliance (submission 26).	03/2021
Legal / Civil rights, Together with Amelia Johns and Francesco Bailo, I was invited for detailed discussions with members of Facebook's content policy and regulation team. The team is looking for means to automatise their content moderation and they would like us to consult about ethonographic and computational approaches.	10/2020
Legal / Civil rights, I was invited to consult with the Council of Attorneys General of New South Wales (NSW) at the defamation law reform roundtable. The NSW government sought experts to develop their understanding of digital communications issues related to defamation and assist their development of potential reforms in this area. I was the only computer scientist at the table and gave insights into the online social networks and internet service providers' technical affordances. The consultations led to a law reform proposal introduced in the NSW parliament and voted into law on the 6th of August 2020	01/2020

Industry Presentations

NSW Defense Innovation Network Virtual Industry Forum -- "A disinformation wildfire and how we might extinguish it"	02/2021
Reserve Bank of Australia -- "Career transitions and managing labour supply and demand"	11/2020
NSSN & Klarrio pitchfest -- "A disinformation wildfire and how we might extinguish it"	09/2020
Victoria gouvernment, Department of Jobs, Precincts and Regions -- "Skill shortages and worker transitions"	09/2020
Treasury NSW -- "Career Development Recommender System & COVID implications for employment"	04/2020
Department of Education, Skills and Employment -- "Skills and employment in times of COVID-19"	04/2020