

# Text Mining of NSW Family and Domestic Violence Police Event Narratives

NSW Police attend thousands of family and domestic violence (FDV) events yearly and they record a wealth of information in unstructured text narratives including mental health status for victims and perpetrators, abuse types and sustained injuries. However, this unique source of information remains untapped for research and reporting purposes. Automated methodologies can help process large amounts of police narratives efficiently and fast to extract key FDV information. We have developed and evaluated a text mining methodology that identified mental illnesses related to victims and perpetrators of FDV, abuse types conducted by perpetrators and injuries sustained by the victims from 493,292 FDV police narratives. Results are promising showcasing that almost 16% of these narratives contained a mental illness and a overwhelming and detailed extent of violence in various forms of abuse and injuries. These results are based on population level and result to fuel further meta-analysis in this area as well as into predictive models for FDV demonstrating the utility of such information from the police narratives.

## About Dr George Karystianis

Dr George Karystianis has a cross-disciplinary background involving computer science and medicine. He obtained his PhD in text mining and epidemiology in 2014 from the University of Manchester. He has eleven years of experience in text mining and has successfully led the design of more than eleven systems that automatically identify information across multiple research domains (e.g., oncology, epidemiology, psychiatry, criminology) in large-scale corpuses. He has been demonstrating the benefits of automated information extraction by contributing to the provision of increased knowledge around themes with none to limited developed informatics applications. His systems are publicly available as standalone tools (DOSES system) or have been used by hospitals (Christie National Foundation Trust, NHS, Manchester, UK) and law enforcement agencies (NSW Police Force) within their administrative infrastructure. His research on the automatic recognition of biases from thousands of full-text animal-based studies, a world's first, received academic acclaim and has been featured in Nature with the Animal Research: Reporting of In Vivo Experiment (ARRIVE) guidelines adjusting their policy to reflect the findings of this study by proposing for researchers in this area to read this paper before publishing any animal-based work in the UK. Most recently, his work on the automatic identification of abuse types, victim injuries and mental illness status of perpetrators and victims from family and domestic violence police reports was the first study of its kind to examine FDV at a population level through a big data approach. George has led multiple times cross-disciplinary teams to tackle challenges in information extraction from medical data in international competitions against prestigious organisations and universities ranking consistently among the top ten worldwide.

The School of Public Health  
and Community Medicine

# Seminar Invitation

Wednesday 5<sup>th</sup> August

12:00 - 1:00 pm

[Seminar is available by  
Teams Meeting Link](#)



Venue: Seminar is available by [Teams Meeting Link](#)

Enquiries: Ravit Danieli-Vlandis [ravit@unsw.edu.au](mailto:ravit@unsw.edu.au)

Recorded Seminars are available on the [SPHCM website](#)

Organisation: Seminars are organised by Professor Robyn Richmond. Research student seminars are organised by Poshan Thapa School of Public Health and Community Medicine, Faculty of Medicine, UNSW Sydney, NSW 2052, Australia

Tel: +61 (2) 9385 2517 | Fax: +61 (2) 9313 6185 | Web: [sphcm.med.unsw.edu.au](http://sphcm.med.unsw.edu.au) | CRICOS Provider Code 00098G



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