Department	School of Computing
Supervisors	Dr Craig Thomson, Dr Bruce Forrest
Project Title	Applying Machine Learning to the Detection of Suicide Propensities in Young Scottish Males

PROJECT DESCRIPTION

Suicide has been shown to be the biggest killer of young men in Scotland. With Public Health Scotland (PHS) stating that 25.7% of deaths of young men between 4 and 25 in Scotland as a result of probable suicide. PHS have also prioritised suicide prevention. In this PhD, jointly supervised by both the School of Computing, Engineering and the Built Environemt and the School of Health and Social Care, the aim is to identify markers of indication of a propensity for suicide. The ultimate aim is for this information to form data which can be used to design a Machine Learning algorithm to help predict the potential for suicide risk in young men in Scotland.

As such, qualitative research is required to examine the causes of suicide. Given the sensitive nature of this study, all potential students would have to join the Protecting Vulnerable Groups (PVG) scheme (https://www.mygov.scot/pvg-scheme) which would include a criminal record check. Please get in touch for further discussion if interested. All applicants from Computing and Healthcare backgrounds will be considered. Your passion for the area is the most important consideration.

Prospective applicants are encouraged to contact the Supervisor before submitting their applications. Applications should make it clear the project you are applying for and the name of the supervisors.

Academic qualifications

A first degree (at least a 2.1) ideally in Computer Science or Healthcare with a good fundamental knowledge of Data Sciences.

English language requirement

IELTS score must be at least 6.5 (with not less than 6.0 in each of the four components). Other, equivalent qualifications will be accepted. Full details of the University's policy are available online.

Essential attributes:
- Experience of fundamental research in Computing or Healthcare
- Competent in Data Science and data gathering
- Knowledge of Machine Learning (not compulsory)
- Good written and oral communication skills
- Strong motivation, with evidence of independent research skills relevant to the project
- Good time management

Desirable attributes:

Some knowledge of healthcare research from a technical standpoint.

Indicative Bibliography	Linthicum, K. P., Schafer, K. M., & Ribeiro, J. D. (2019). Machine learning in suicide science: Applications and ethics. Behavioral Sciences and the Law, 37(3), 214–222. https://doi.org/10.1002/bsl.2392 NHS Scotland Information Services Division. (2016). A profile of deaths by suicide in Scotland 2009-2014. August. Scotsid, I. D. (2021). A profile of deaths in Scotland 2011 to 2019.

	Shatte, A. B. R., Hutchinson, D. M., & Teague, S. J. (2019). Machine learning in mental health: a scoping review of methods and applications. Psychological Medicine, 49(9), 1426–1448. https://doi.org/10.1017/S0033291719000151
Enquiries	For informal enquiries about this PhD project, please contact Dr Craig Thomson – C.Thomson3@napier.ac.uk.
Web page	https://www.napier.ac.uk/research-and-innovation/research-degrees/application-process