



Job Description: Research Officer

Faculty/Directorate/Service Area:	Medicine, Health and Life Sciences
Job Title:	DATAMIND TRE & MHG Observatory AI Researcher
Department/Subject:	Data Science / Machine Learning
Salary:	Grade 8: £39,355 to £45,413 per annum together with USS pension benefits
Hours of work:	35 hours per week (100% FTE)
Contract:	This is a fixed term position until 31 st May 2028. The UK Mental Health Goals programme is funded until March 2030, with strong potential for contract extension beyond the initial 24-month period for high-performing team members.
Location:	This position is hybrid and will be based at Singleton Campus

Main Purpose of Post	<p>Applications are invited for the position of AI Research Officer for the DATAMIND Trusted Research Environment (TRE) and UK Mental Health Goals (MHG) Observatory, based at Swansea University, led by Prof. Ann John.</p> <p>The UK Mental Health Goals programme represents a national commitment to improving mental health outcomes and preventing suicide through data-driven research. The DATAMIND TRE and MHG Observatory provide secure access to population-scale health data covering millions of individuals across multiple UK data havens.</p> <p>However, these rich datasets remain underutilized for AI/ML research due to three challenges:</p> <ol style="list-style-type: none"> 1. Data Infrastructure Gap: Health data in Secure Data Environments (SDEs) are often in raw or semi-raw form, very rarely optimized for machine learning workflows. Feature engineering, temporal alignment, and ML-ready data structures require specialized pipelines. 2. Methods Translation Gap: Standard ML tools and practices do not directly translate to secure, air-gapped research environments with strict governance and reproducibility requirements. 3. Application Gap: Mental health researchers need practical demonstrations of how AI methods can advance their research questions while maintaining epidemiological rigor and clinical interpretability. <p>This role addresses all three challenges, establishing the infrastructure, tools, and exemplar applications that will enable the next generation of AI-driven mental health research.</p> <p>Key Duties and Responsibilities:</p> <ol style="list-style-type: none"> 1. Design and implement data pipelines that transform complex health records and cohort data into ML-ready datasets, while preserving temporal structure, handling missing data appropriately, and maintaining epidemiological validity. 2. Develop ML workflows for common mental health research use cases (e.g., risk prediction, trajectory modelling, treatment response) that can be reused across multiple projects. 3. Create documentation and metadata schemas that ensure ML-ready datasets maintain full data provenance and reproducibility standards required for peer-reviewed publication. 4. Develop and deploy ML tools and workflows adapted for SDEs, including model training, validation, hyperparameter tuning, and evaluation frameworks. 5. Implement best practices for ML in mental health epidemiological research, including appropriate train-test splitting, handling of class imbalance, calibration for clinical decision support, and interpretability methods. 6. Ensure all developed tools align with DATAMIND's reproducibility standards and can be shared across the UK TRE network. 7. Lead applied AI research projects addressing priority mental health questions, such as identification of high-risk patient trajectories, or treatment response prediction. 8. Prepare research outputs for peer-reviewed publication in relevant journals.
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	<ol style="list-style-type: none"> 9. Present work at national and international conferences to disseminate best practices for AI in mental health research. 10. Provide informal guidance and support to other researchers applying ML methods within the TRE. 11. Contribute to funding applications and research proposals, providing AI/ML technical expertise and methodology sections. 12. Be self-motivated, apply and use initiative, aiming to determine suitable ways to tackle challenges 13. Interact positively and professionally with other collaborators and partners 14. Keep informed of developments in the field 15. Maintain and enhance links with professional institutions and other related bodies
<p>General Duties</p>	<ol style="list-style-type: none"> 16. Promote equality and diversity in working practices and maintain positive working relationships. 17. Conduct the job role and all activities in accordance with safety, health and sustainability policies and management systems, to reduce risks and impacts arising from the work activity. 18. Ensure that risk management is an integral part of any decision-making process, by ensuring compliance with the University's Risk Management Policy. 19. Any other duties as agreed by the Faculty/Directorate/Service Area.
<p>Professional Services Values</p>	<p>All Professional Services areas at Swansea University operate to a defined set of Core Values - Professional Services Values and it is an expectation that everyone is able to demonstrate a commitment to these values from the point of application through to the day to day delivery of their roles. Commitment to our values at Swansea University supports us in promoting equality and valuing diversity to utilise all the talent that we have.</p> <p>Our values are:</p> <p>We are Professional</p> <p>We take pride in applying our knowledge, skills, creativity, integrity and judgement to deliver innovative, effective, efficient services and solutions of excellent quality.</p> <p>We Work Together</p> <p>We take pride in working in a proactive, collaborative environment of equality, trust, respect, co-operation and challenge to deliver services that strive to exceed the needs and expectations of customers.</p> <p>We Care</p> <p>We take responsibility for listening, understanding and responding flexibly to our students, colleagues, external partners and the public so that every contact they have with us is a personalised and positive experience. Commitment to our values at Swansea University supports us in promoting equality and valuing diversity to utilise all the talent that we have.</p>
<p>Person Specification</p>	<p>Values:</p> <ol style="list-style-type: none"> 1. Demonstrable evidence of taking pride in delivering professional services and solutions 2. Ability to work together in an environment of equality, trust and respect to deliver services that strive to exceed the needs and expectations of customers. 3. Demonstrable evidence of providing a caring approach to all of your customers ensuring a personalised and positive experience <p>Qualifications:</p> <ol style="list-style-type: none"> 4. PhD in Data Science, Machine Learning, Computer Science, or related discipline. <p>Experience:</p> <ol style="list-style-type: none"> 5. Evidence of expertise in ML pipelines, including robust model evaluation and common pitfalls (data leakage, overfitting, selection bias). 6. Evidence of significant experience working with data in epidemiology, health informatics, bioinformatics, and/ or data science fields.



	<p>7. Evidence of writing and publishing research papers, particularly for refereed journals. 8. Evidence of the capacity for designing research and writing applications or external research funding. 9. Evidence of designing and conducting complex analyses and interpreting the results. 10. Collaborative mindset with genuine interest in bridging AI/ML with health research.</p> <p>Knowledge and Skills:</p> <p>11. Evidence of expertise in Python and SQL. 12. Ability to demonstrate significant independence of focus and direction in research 13. Ability to manage own tasks and administrative activities to meet deadlines. 14. Good communication skills both written and oral. 15. A commitment to continuous professional development.</p> <p>Desirable Criteria:</p> <p>16. Experience in statistics, epidemiology, and psychology. 17. Experience in mental health research and health informatics. 18. Experience with health data, electronic health records, or biomedical datasets. 19. Experience with longitudinal and cross-sectional healthcare data analysis. 20. Experience with routine and cohort data analysis. 21. Knowledge of psychiatric epidemiology. 22. Experience with predictive modelling and machine learning approaches. 23. Track record of publication in relevant field.</p>
<p>Welsh Language Level</p>	<p>Level 1 – ‘a little’ - pronounce Welsh words. Able to answer the phone in Welsh (good morning / afternoon). Able to use very basic every-day words and phrases (thank you, please etc.). Level 1 can be reached by completing a one-hour training course.</p> <p>For more information about the Welsh Language Levels please refer to the Welsh Language Skills Assessment web page, which is available here.</p>
<p>Additional Information</p>	<p>Informal enquiries: Marcos Del Pozo Banos (m.delpozobanos@swansea.ac.uk) Amanda Marchant (a.l.marchant@swansea.ac.uk)</p>

