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Book of Abstracts

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SESSION 1

1A UNDERSTANDING AI AND FUTURE DIRECTIONS OF DIGITAL RESEARCH

OP - ARE YOU EVEN REAL? RETHINKING RESEARCH ETHICS IN THE AGE OF AI

SUZANNE R BLACK, NICOLA OSBORNE, LOUISE CONNELLY

Internet research has always taken place in the context of rapid cultural change and platform instability raising particular methodological challenges. However the pace and proliferation of AI is accelerating these challenges requiring rapid and deep reflection on the capabilities of researchers and ethics committees to understand and respond to such challenges. There is a real and growing concern that AI powered bots, synthetic participants, and the generative content that they 'contribute' to internet research activities threatens to shape and distort the value of that research.

In this paper we will present the authors' experience of undertaking research targeted by AI bots and by a mixture of human and automated bad actors. We use this experience to discuss some of the potential implications for this proliferation of AI generated content and AI-powered bots in the context of internet research. We approach this topic with both the perspectives of researchers engaging in online research and the perspectives of research ethics committees (RECs) evaluating research ethics proposals in mind.

LT - THE ROLE OF DATA INTERMEDIATION SERVICE PROVIDERS IN DEVELOPING AI PRODUCTS OR SERVICES UNDER THE DATA GOVERNANCE ACT

TIANQI BI

The Data Governance Act (DGA) proposes a role for data intermediation service providers in the utilisation of data, including the use of data for the development of AI products and services, and sets out their conditions of service as well as notification and registration procedures.

Data intermediary is a broad concept and it can provide various forms of data services including data processing, data trading and data intermediation focussed on relationship building.This talk will begin by pionting the data intermediation services and data intermediation service providers described in the DGA are subsets of data services and data intermediaries. Secondly, analyse which data intermediation services are subject to the DGA. Finally, explain what is data intermediation service in practice by analysing the nine data intermediary service providers that have been registered in the market and their role and potential in developing AI products or services.

1A UNDERSTANDING AI AND FUTURE DIRECTIONS OF DIGITAL RESEARCH

LT - AI-GENERATED FILMS AND POSTHUMANISM: A LESS HUMAN-CENTRED RESEARCH METHOD IN POSTHUMAN FILM STUDIES

YUFENG LI

Generative artificial intelligence (GAI) is reshaping contemporary filmmaking. Specifically, transformer-based deep neural networks such as large language models (LLMs) have demonstrated the capacity of artificial intelligence to generate text, images and videos. This implies the emergence of "posthuman cinema" where AI can conduct essential tasks in filmmaking and autonomously produce films (AI-generated films), thus posing a challenge to human dominance in the filmmaking process. Hence, film studies require a corresponding adjustment, as traditional research methods that excessively emphasise human aspects are being questioned in this posthuman condition. For instance, human-centred concepts and approaches in film studies such as the film auteur, narrative analysis, and psychoanalytical approach may not be applicable for analysing AI-generated films. Posthumanism is a relatively new philosophical term that has garnered considerable attention since the early 21st century due to its exploration of the incoming posthuman condition such as the rise of AI and the complex dynamics between humans and nonhuman entities like human-AI relationships. Therefore, the utilisation of posthumanism in film studies proves valuable when addressing the changes and challenges within a posthuman cinema where AI is taking on the roles of primary creators.

1B DIGITAL RESEARCH PLANNING & INFRASTRUCTURE FOR DATA TRANSFER, STORAGE, ANALYSIS, COLLABORATION, SHARING AND PRESERVATION

OP - **PUBLOMICS' - THE APPLICATION OF AI TO DEVELOPING USEFUL, COMPRESSED INTELLIGENCE**

MALCOLM MACLEOD

The OpenAlex platform curates over 250 million research publications, with many more artefacts in specialist databases, patents, conference abstracts, and other sources. These collectively represent a "diffuse intelligence" that, if exploited effectively, has the potential to advance our understanding of the world.

While researchers in a particular domain may be adept at navigating their literature, exploiting research findings across domains is challenging because of siloes of intelligence and limited cross-domain exploitation. Systematic review offers an established methodology for summarizing research findings more robustly than non-systematic reviews, but this is prohibitively time-consuming at scale due to the volume and pace of publication.

"Publomics" (DOI 10.1038/s41684-023-01256-4) is an approach to creating "compressed intelligence" that is reliable, accessible, and contextualized across research domains. It requires harnessing transformative developments in natural language processing alongside systematic review methodology, and includes an evaluation of the provenance of research claims according to community standards, and relies on the growing availability of open source platforms such as OpenAlex.

OP - **EDINBURGH'S CONTRIBUTIONS TO THE WLCG GLOBAL COMPUTING INFRASTRUCTURE**

ROBERT CURRIE

The Worldwide LHC Computing Grid (WLCG) is a globally distributed computing infrastructure originally designed to manage and analyze Exabyte-scale datasets in High-Energy Physics (HEP) research. In recent years, however, this infrastructure has also proven capable of supporting other computing communities, including those in Astronomy and Nuclear Physics. The WLCG Tier2 site at Edinburgh is one of over 170 data centres contributing resources to this distributed grid computing environment. Resources within the WLCG are allocated and managed by Virtual Organizations (VOs) that represent different research activities. Through the Grid Security Infrastructure, VO members can securely access the compute and storage resources necessary to complete their research. The GridPP project in the UK contributes ~15% of the total resources within the WLCG. GridPP members at Edinburgh are responsible for managing WLCG Tier2 resources and also contribute to the development of modern distributed Grid Storage technologies. Our efforts are focused on data management using RUCIO, data monitoring with OpenSearch, and data access through XRootD.

1B DIGITAL RESEARCH PLANNING & INFRASTRUCTURE FOR DATA TRANSFER, STORAGE, ANALYSIS, COLLABORATION, SHARING AND PRESERVATION

LT - **RUCIO: GLOBAL DISTRIBUTED POLICY DRIVEN DATA MANAGEMENT**

JAMES PERRY

Managing large quantities of scientific data spread across various institutions and stored on heterogeneous systems can be very challenging. Rucio, originally developed at CERN for the ATLAS experiment, is a sophisticated open source software tool for distributed data management. It implements a declarative, rules-based approach to replica management and supports multiple storage protocols and metadata systems. It is now used by many large scale collaborations and experiments, particularly in the fields of particle physics and astronomy.

Our team in the School of Physics and EPCC has been contributing to Rucio development for several years. On behalf of the Deep Underground Neutrino Experiment (DUNE) we have added various features to the software, most notably support for objectstores and for experiment-specific customisations, as well as a new customisable replica sorter algorithm and various smaller features and bug fixes. We have also developed monitoring infrastructure, providing DUNE with detailed insights into Rucio's status and performance, and a DUNE-specific "policy package", integrating Rucio with MetaCat, DUNE's primary metadata catalogue, and implementing custom algorithms for tasks such as physical filename generation.

1C WORKSHOP – SOCIAL CARE DATA: CHALLENGES AND OPPORTUNITIES IN THE CARE OF OLDER PEOPLE

LED BY SUSAN SHENKIN

This interactive workshop will start with a short presentation on the use of individual-level social care data for research, with examples from DataLoch relevant to the care of older people, (e.g. ingestion and linkage of social care data, including care home resident data). This will be followed by discussion in small groups on the opportunities & barriers of this and similar work, ethical and governance issues, and the next steps to ensure that social care data is appropriately and effectively used for care and health research in the future.

1D WORKSHOP – PAIN IN THE DIGITAL WORLD

LED BY ALEXANDER CORBISHLEY

In today's digital age, we often focus on how technology collects and uses information, but we don't always think about how this impacts decisions that affect us and other living beings. This workshop will explore how digital technology is used to manage and respond to pain. We'll look at systems designed to evaluate pain automatically in both humans and animals and discuss key issues:

- Should these systems act on their own? Can they decide when to provide pain relief, or should a human always make that decision?
- How should these systems learn and adapt? Is it better to have them follow strict pre-set rules, or should they adjust based on new information they gather?
- What about oversight? How do we monitor and control these "black box" systems whose workings are not fully visible to us?
- Who interprets the data? What happens when there's a disagreement between what the technology suggests and human judgment?
- Use in agriculture: We've seen technologies like electric shock devices used in farming without a human present. Is there enough oversight? Where do we draw the line on a digital system's ability to cause pain?

SESSION 2

2A UNDERSTANDING AI AND FUTURE DIRECTIONS OF DIGITAL RESEARCH

OP - HARNESSING ROUTINE HOSPITAL EVENT DATA TO UNDERSTAND EARLY UNPLANNED READMISSIONS AND RELATIONSHIPS WITH MULTIMORBIDITY STATUS

KONSTANTIN GEORGIEV

Rates of early unplanned hospital readmission within 30 days of discharge are rising. Hospital performance measures typically focus on nationally reported endpoints like length of stay. Whilst reproducible, 'hard' endpoints like these do not necessarily capture the complexity of hospital care. We propose a Process Mining approach utilising granular hospital event data to measure care pathway variability in patients with and without early unscheduled readmission and multiple long-term conditions. To achieve this, we collected routine hospital events for Scottish adults (≥50 years old) surviving discharge from unplanned admission, with associated ED attendance across three acute hospital sites in Lothian. We used HDRUK CALIBER phenotype groups to define and categorise multimorbidity types into 25 chronic conditions. Timestamped hospital activities, including ward and specialty moves, care provider inputs and risk assessments, were used to design a standardised event log. The event log linked included 1,533,359 events across 30 distinct subtypes. Healthcare pathways in readmitted patients with complex (at least 1 physical and 1 mental chronic condition) and high-count (4 or more conditions) multimorbidity differed substantially from patterns in non-readmitted patients. Future work involving collaboration with clinical and social care practitioners could be crucial in refining the event selection procedures.

OP - SINGLE MACHINE LEARNING CLASSIFIER PIPELINE TO DETECT INFANTILE SPASMS IN A CLINICAL DATASET

BARTLOMIEJ CHYBOWSKI

Infantile Spasms (IS) is a severe epileptic encephalopathy in infants, leading to developmental regression and long-term intellectual disability. Early detection and treatment significantly improve neurodevelopmental outcomes. The most effective diagnostic tool is video-electroencephalogram (EEG), which reveals a characteristic background abnormality. However, IS diagnosis is often delayed due to the difficulties in obtaining and interpreting EEG reports.

This study evaluates whether a machine learning (ML) pipeline can accurately detect IS using annotated EEG recordings. The dataset, sourced from the Children's Hospital Edinburgh (N=5, median age 7 months, average recording time 30 minutes), assesses the impact of applying Current Source Density (CSD) to reduce volume conductance, comparing results with and without CSD. Data augmentation quadrupled the dataset size.

Two approaches are used: one based on calculating temporal, frequency, and graph theory-derived features, and the other using unprocessed data. The pipeline tests eight ML and deep learning (DL) models, with the best-performing model for the 18-channel montage with CSD achieving an average ROC AUC of 0.73 ± 0.12. These findings indicate the potential for developing effective ML classifiers for IS detection, encouraging further research with additional annotated clinical data and advanced ML methodologies.

2A UNDERSTANDING AI AND FUTURE DIRECTIONS OF DIGITAL RESEARCH

OP - **BEYOND THE SURFACE: REVEALING RESEARCHERS' BEHAVIOUR IN PUBLIC REPOSITORIES**

MAIRA JULIANA RODRIGUEZ CUBILLOS

This study tackles the critical issue of metadata quality in public research repositories, essential for adhering to FAIR (Findable, Accessible, Interoperable, and Reusable) principles. Inadequate metadata hinders knowledge dissemination, and current practices often fail to meet required standards. This project analyses existing repositories and develops AI-driven tools to enhance metadata quality. By employing text mining, machine learning (ML), and natural language processing (NLP) models, including advanced large language models like GPT and Llama2, the tool provides feedback to users submitting datasets, enriching metadata quality.

Four repositories are examined: BioDare2 (circadian rhythm datasets), DataShare (University of Edinburgh research data), Virtual Fly Brain (fly brain experimental data), and Image Data Repository (scientific image datasets). Preliminary results from BioDare2's 15,424 metadata records reveal significant gaps, with 62% of "Description" fields and 92% of "Comment" fields empty. Despite this, 11,526 entities across 38 species were identified, demonstrating potential for developing the metadata enrichment tool. The report details BioDare2's metadata analysis and provides code for replicating the approach in other repositories, aiming to improve metadata and increase dataset reusability.

2B ADVANCING DIGITAL RESEARCH SKILLS & TRAINING

LT - ETHICAL AND METHODOLOGICAL CONSIDERATIONS OF USING X AND FACEBOOK FOR RESEARCH. ANALYSING THE EDUCATIONAL ACTIVITIES OF UNIVERSITY OF EDINBURGH' MUSEUMS, COLLECTIONS AND GALLERIES

RAUL GOMEZ HERNANDEZ

In 2023, as part of a doctoral research project, interviews were conducted with staff (curators, technicians, and managers) from museums, collections, and galleries of the University of Edinburgh, but also students who collaborate with the institutions and others who use the materials daily in their classes.

This research aimed to investigate the state of digital cultural heritage across the museums, collections, and galleries of the University of Edinburgh, focusing on their materials' educational and research purposes.

A new analysis has been conducted in 2024 to complete this research aiming to know the audience perception of the educational activities of the University of Edinburgh's museums, collections, and galleries from the X's/tweets and Facebook posts published on the University of Edinburgh museums, collections and galleries official X's (formerly Twitter) accounts and Facebook pages and their interactions between the 1st January and the 1st June 2024.

This lightning talk will present and discuss the ethical and methodological considerations around the research on these social media and show the results of this study.

LT - BEYOND DATASETS IN DMPS

VASHTI GALPIN

This talk introduces a new approach to supporting researchers in creating research data management plans (DMPs) that address "research data" in the broadest sense of that term. The Concordat on Open Research (https://www.ukri.org/wp-content/uploads/2020/10/UKRI-020920-ConcordatonOpenResearchData.pdf) defines research data as "the evidence that underpins the answer to the research question, and can be used to validate findings regardless of its form".

For good reasons, current material has concentrated on digital datasets (meaning files or collections of numeric or textual data) and it can be challenging for researchers to answer the questions in funder DMP templates to include all relevant digital evidence such as scripts, workflows and software. The aim is not only to satisfy the data policies of funders but also to consider how to ensure that the generated data can be used to assess the validity of the research, and made available for others to either reproduce the research or to use the data in further research, thereby meeting the FAIR principles and supporting open science.

New visualisations of the data in the research process will be presented and other potential strategies discussed, including additional planning documents, broadening guidance in DMP tools, and provision of example DMPs for different types of research.

2B ADVANCING DIGITAL RESEARCH SKILLS & TRAINING

LT - 'I WANT A WEBSITE'. RETHINKING ONLINE PRESENCE: BALANCING IMMEDIATE NEEDS AND LONG-TERM PRESERVATION

SONIA VIRDI

This talk explores the diverse needs associated with establishing a digital or online presence, particularly for academics. Our research over the past year has focused on working with this group to understand the question "I want a website, how do I achieve this?".

We found that a "website" can take many forms, for example a blog post, an Eventbrite event, or a social media update. However, not all digital presences require a traditional website. This research examines when a website is appropriate and the responsibilities involved in creating one. We will discuss strategies for managing an online presence, available support options, and the long-term implications of website creation from the perspective of digital sustainability and preservation.

2C WORKSHOP – GREENING YOUR DIGITAL RESEARCH

LED BY LISA OTTY

Digital technology is material: every time we use software and hardware, every time we run code, every time we buy a device, we are having an impact on the environment. As we all move towards net zero, it will become increasingly important that digital research is conducted in sustainable and environmentally considerate ways. This workshop will provide an opportunity to explore what 'greener' digital research might look like. It will introduce the Digital Humanities Climate Coalition Toolkit, an online resource supporting researchers to reduce the carbon footprint of their projects which includes guidance and information relevant to many practices across the digital research life cycle. It will also offer a chance to discuss work that is ongoing within the University and offer an opportunity to share practices, experience and ideas across research groups and schools. Together we will explore where we might be able to make changes as individuals, and where we may need to influence and work with others.

2D ROUNDTABLE DISCUSSION – THE FUTURE OF THE DIGITAL FACTORY

LED BY JONATHAN CORNEY

Manufacturing has long been associated with images of human workers operating machinery to perform tasks like assembly, inspection, and maintenance. Despite the introduction of steam power, electricity, digital controls, and computer networks, this image of industrial workplaces has remained largely unchanged. However, a convergence of artificial intelligence, additive manufacturing, and robotics now promises to bring profound changes to the factories of the future. This round table discussion, featuring academics and industry leaders, will explore the limits of these new technologies and examine their potential impact on both the manufacturing industry and the society it serves.

SESSION 3

3A UNDERSTANDING AI AND FUTURE DIRECTIONS OF DIGITAL RESEARCH

LT - **AI AND L2 LEARNERS' MOTIVATION**

MEI-HUA YANG

The increasing popularity of applying Artificial Intelligence (AI) in language learning has attracted significant interest from researchers. Nonetheless, incorporating AI technologies into education has a long history in research. The evolution of computer-assisted language learning (CALL), mobile-assisted language learning (MALL), and intelligent computer-assisted language learning (ICALL) appear to have set the stage for the integration of modern AI-powered technologies into the language learning domain.

Today, advanced AI-powered language learning apps and platforms show the potential to revolutionise language acquisition and redefine instructional approaches by catering to individual learning needs. Nonetheless, research on their impact, especially learner motivation, remains limited. To address this gap, the proposed study leverages the Technology Acceptance Model (TAM) and the L2 Motivational Self System (L2MSS) to examine L2 learners' attitudes, beliefs, and experiences with AI tools.

The proposed research will involve online surveys and interviews to gather insights. By exploring how AI can enhance motivation and engagement, this study aims to contribute to designing more effective educational technologies and adaptive digital learning environments that better meet diverse learner needs. The findings could help shape future research and development in AI-powered language learning tools.

LT - **SYSTEMATIC ONLINE LIVING EVIDENCE SUMMARIES: A COMPUTATIONAL WORKFLOW FOR EVIDENCE SYNTHESIS**

EMMA WILSON

Systematic Online Living Evidence Summaries (SOLES) is a novel approach for synthesising research evidence using R programming tools. SOLES integrates APIs from PubMed, Scopus, and Web of Science to retrieve and categorise new publications weekly, displayed on free-access web applications. Metadata is gathered from OpenAlex, and full texts are sourced from EuropePMC and others. The system employs machine learning classifiers and custom NLP tools to identify relevant research, focusing on biomedical studies such as Alzheimer's and cancer. Part of an EU-funded project, SOLES supports reproducibility and transparency in research, with the workflow available on GitHub for public use.

3A UNDERSTANDING AI AND FUTURE DIRECTIONS OF DIGITAL RESEARCH

LT - **AI TOOLS AND QUALITY IN EVIDENCE SYNTHESES**

MARSHALL DOZIER

There is increasing activity in the production of evidence syntheses by University of Edinburgh researchers and students – from systematic reviews and meta-analyses to evidence maps and scoping reviews. Evidence syntheses are very labour-intensive endeavours, and rigour can be affected by compromises required to arrive at humanly-manageable volumes of studies to handle.

Drawing on our own experience in designing tools and using tools created by others, we summarise the contributions that AI tools bring to improve efficiency in the processes required for secondary analysis of large bodies of research literature. These processes can include: searching to identify literature; deduplication; screening for highly relevant publications; topic categorisation; data extraction; quality assessment etc. We will also outline problematic areas, where the use of AI tools may not be appropriate or where functionality is not reliable or sufficiently developed.

We aim to bring together individuals and groups working in this area to develop our collective awareness, avoid unhelpful duplication of effort, and improve reliability and validity of tools and methods.

3B DEALING WITH SENSITIVE DATA

LT - PUSHING HEALTH DATA ACCESS BOUNDARIES - ADAPTING NHS GOVERNANCE FOR 2 CHALLENGES: CLINICAL FREE-TEXT AND AI DEVELOPMENT

AMY TILBROOK

This presentation will demonstrate expansions to research data management governance frameworks developed to facilitate safe data access in two advanced areas: clinical free-text, and innovation with AI/Machine Learning.

NHS research governance frameworks - originally set up for clinical trials and expanded into the secondary data use space – are not an immediate fit for advanced techniques in data science research. Equally, researchers may not be aware of the challenges of providing safe access to this kind of data.

Over 2 years, public, expert and user engagement approaches were utilised to support developing frameworks within DataLoch, a Health and Social Care Secure Data Research Service based on Edinburgh.

The presentation will summarise the challenges faced for our service and researchers working to support these areas, and the frameworks that are now are being tested within an NHS Scotland Health Board and available to researchers. The development and implementation demonstrates that governance structures can be adapted collaboratively and paves the way for more flexible governance to allow the use of NHS patient data to remain legally and ethically robust while supporting advanced techniques of analysis.

LT - PREVALENCE AND OUTCOMES OF RECORDED DEMENTIA VARY BY DATA SOURCE: A POPULATION COHORT STUDY OF 133,407 OLDER ADULTS USING LINKED PRIMARY CARE, HOSPITAL AND COMMUNITY PRESCRIBING DATA

ROSE PENFOLD

INTRODUCTION: Dementia is underdiagnosed and variably recorded in different routine health data sources that may not always be linked.

METHODS: In a regional population dataset of people aged over 65 years (n=133,407), we examined dementia diagnoses in different data sources from 01/04/2016-01/04/2020. Data was provided by DataLoch and analysed in the regional Safe Haven. Associations between dementia and mortality were examined using Cox regression, stratified by source of first dementia record.

RESULTS: On 01/04/2016, 7544/133407 (5.7%) had a dementia diagnosis recorded in one or more data sources (95.1% in primary care, 73.3% in hospital, 54.3% community prescribing). Over the next four years, 7359/125,863 (5.8%) had a new dementia record: 70.2% in primary care, 22.2% in hospital, and 7.6% community prescribing. Only 33.2% of hospital diagnoses were recorded in primary care within a year. People diagnosed in hospital were older, more frail, more socioeconomically deprived and had higher mortality than those diagnosed in primary care (<30days: aHR 10.08, 95%CI 6.53-15.57; >365days: aHR 1.31, 95%CI 1.21-1.43).

DISCUSSION: Dementia is variably recorded across routine health datasets, risking suboptimal care and research bias.

3B DEALING WITH SENSITIVE DATA

LT - **INDIVIDUAL LEVEL FINANCIAL TRANSACTION DATA - CHALLENGES AND OPPORTUNITIES**

OLIVER BERRY

This research explores the use of individual-level consumer transaction data for behavioural and economic analysis, highlighting challenges in data access due to its sensitivity. The study presents a data insights infrastructure focused on financial vulnerability, developed with the Joseph Rowntree Foundation. This includes a GB-wide dashboard and a Trusted Research Environment (TRE) for data analysis. Managed by the Smart Data Foundry, a University of Edinburgh subsidiary, the de-identified data supports academic and policy research. The paper discusses the requisite barriers and safeguards, addressing concerns like bias and representativeness, and underscores the potential for impactful policy applications.

3C SEMINAR – UK LONGITUDINAL LINKAGE COLLABORATION: A TRUSTED RESEARCH ENVIRONMENT FOR THE LONGITUDINAL RESEARCH COMMUNITY

LED BY STELA MCLACHLAN

Topics to be covered:

- Introduction and overview of UK Longitudinal Linkage Collaboration (UK LLC) + Q&A
- Access to data held in the UK LLC + Q&A
- Public and Participants Involvement and Engagement/Citizen Panel + Q&A.

3D ROUNDTABLE DISCUSSION – EMPOWERING NON-CODERS. TEACHING DIGITAL RESEARCH SKILLS TO THE UNINITIATED

LED BY LUCIA MICHIELIN

This roundtable discussion will bring together experts from across the University of Edinburgh who specialise in teaching coding to non-coders. The session will begin with a series of lightning talks, where our speakers will introduce their diverse backgrounds. Our panel includes experts with experience teaching coding to a wide range of audiences, including researchers, undergraduate and postgraduate students, and participants in boot camps. We will also explore various teaching modalities, such as in-person, online, and hybrid formats, and consider the backgrounds of attendees, ranging from Humanities to Data Science, Healthcare, and Software Development. Together, we aim to provide a comprehensive overview of what it takes to successfully teach coding to non-coders.

Exploring the potential and harnessing the benefits of digital, data, and AI are key research priorities at the University of Edinburgh. At the same time, the ongoing Data-Driven Innovation programme supports Edinburgh in its ambition to become the data capital of Europe. This has led to an increase in data-led projects across all areas of the university, also in those fields that are not traditionally associated with data-driven methodologies. Consequently, an increasing number of researchers are implementing digital tools in their research. A significant challenge these researchers face is getting comfortable with coding and technical environments that are perceived as difficult and alien. Teaching researchers how to overcome this barrier is therefore paramount to support them in embedding digital methods.

POSTERS

‘ONLIFE’ RELIGIOUS EXPERIENCES: EMERGING HINDU RELIGIOSITY IN GAYA, INDIA

ANAND RANJAN

This study examines the evolving Digital Hindu Religiosity within the context of India’s rising ethnonationalism. Employing the concept of ‘Onlife’ (Floridi, 2014), it explores how the intersection of online and offline spaces facilitates the inclusion of marginalised voices, such as Dalits, within Hinduism. Digital spaces enhance religious accessibility, previously dominated by Brahmanical privileges. The COVID-19 pandemic furthered this digital engagement through e-Satsang, e-prayer, and e-puja. This research, using qualitative methods and focusing on the Gaya pilgrimage, investigates how digital Hindutva activists project Hinduism in the digital realm, transforming pilgrimage sites into religiopolitical centres.

EXPERIENCES OF DIGITAL TRANSITIONS IN HEALTH AND SOCIAL CARE SERVICES IN LATER LIFE: FINDINGS AND REFLECTIONS FROM A COLLABORATIVE, INTERDISCIPLINARY FEASIBILITY STUDY

ELISA CARDAMONE

The emergence of new technologies and digital developments increasingly shapes health and social care services. However, research suggests that older adults are less likely to use digital devices and, therefore, risk missing out on essential health and social care services as these become more digital-by-design. Thus, we reviewed design, engineering, health, and social science literature to understand how researchers currently think about older adults’ digital service needs. We have also engaged with older adults in Edinburgh to explore their perspectives on digital transitions in health and social care. Here, we share a snapshot of our findings with reflections on the interdisciplinary and collaborative processes used to help ensure an inclusive, caring and human-centred approach.

THE FUNDAMENTAL LEGAL CONCEPT OF CENTRAL BANK DIGITAL CURRENCY (CBDC) AS THE FUTURE OF MONEY

FRANSISKA ARI INDRAWATI

The rise of digital currency issued by private entities and the decline of cash have triggered many central banks to engage in advanced research on central bank digital currency (CBDC). Currently, over 90% of central banks, including the Bank of England, are exploring this new form of money. As this form of money is likely to be adopted as state-issued money in the future, the issuance of CBDC must consider academic research from multidisciplinary fields, including legal.

This poster focuses on the legal aspects of CBDC, arguing that CBDC fulfils the characteristics of money. Thus, CBDC could serve as a means of payment if designated by the State. This poster also discusses the rights of CBDC holders, covering the right to payment and the right to services, which are enforceable against the issuer and the intermediaries. Legislation on CBDC is also crucial to cover the issuance, distribution, and transfer of CBDC, as well as the exercise of the rights of CBDC holders.

However, discussion on CBDC also involves other dimensions, such as technological considerations, data privacy, and risk mitigation for system failures. Therefore, collaboration among scholars and researchers is important to create comprehensive research to design an ideal CBDC.

R RECIPES FOR TEACHING STATISTICS IN R

GLENNA NIGHTINGALE

This poster provides an insight into work led by Glenna Nightingale to teach statistical concepts within the R environment. This work is done in collaboration with statisticians from the School of Health in Social Science. The work consists of online interactive workbooks which use storyboarding and sample code to teach statistical concepts.

DIGITAL SAFEGUARDING APPROACHES FOR HMONG/MIAO INTANGIBLE CULTURAL HERITAGE - A COMPARATIVE STUDY OF PROMOTION AND CULTURALLY SENSITIVE DATA IN CHINA, LAOS AND THE USA OF HMONG/MIAO DIGITAL PARTICIPATION

HAIRONG WANG

Cultural and creative industries (CCIs) can be seen as a mixture of cultural, technological, creative and economic elements that contribute significantly to national development and safeguarding of intangible cultural heritage (ICH). A main approach to safeguarding includes transmission and promotion. Within this, the concept of digital engagement and participation, which is basically the use of modern information and communication of information via technologies such as the Internet to form a digital society, is highly utilised. There are three aspects to digital participation, the first being the means of access and content usage of digital devices. The second is participation through digital technologies, and the third is engagement within the digital world.

The application of digital participation in CCIs has become a trend in promoting ICH. The Hmong are one of the oldest ethnic communities originating in southern China, located primarily in China, Southeast Asia and the USA, with a rich ICH which hasn't been fully explored. This qualitative study will explore the potential of digital participation in safeguarding of Hmong ICH from a comparative perspective, with a view to globalising and promoting traditional cultural industries. This study will use three global Hmong ICH cases for comparative research and fieldwork.

INTEGRATING COMPUTATIONAL NOTEBOOKS AND RSTUDIO INTO UNIVERSITY COURSES: ENHANCING DIGITAL RESEARCH CAPABILITIES

JAMES STIX

In today's data-centric world, equipping students with advanced digital research skills is crucial for academic and professional success. This presentation provides insights into the strategic integration of computational notebooks (e.g., Jupyter) and RStudio into university courses, aimed at enhancing students' digital literacy and research capabilities. Computational notebooks offer a dynamic, interactive platform for combining executable code, rich text, and visualisations, facilitating a deeper understanding of complex concepts. RStudio serves as a robust environment for statistical computing and graphics, widely adopted in data analysis across various disciplines.

At Edinburgh University's centre for digital expertise, we have pioneered the incorporation of these tools into our curriculum, fostering an engaging and practical learning experience. This talk will present detailed case studies, including feedback from both students and faculty, demonstrating the positive impacts on learning outcomes and research proficiency. Attendees will learn about our implementation strategies, curricular adjustments, and the resultant benefits, such as enhanced analytical skills, improved comprehension of subject matter, and increased preparedness for the data-driven workforce.

By sharing best practices and lessons learned, this presentation aims to provide educators with actionable insights on how to effectively integrate computational tools into their own teaching methods, thereby advancing digital research education across academic institutions.

INTEGRATION OF DATA MANAGEMENT ROLES ACROSS CMVM: ADDRESSING RESEARCH DATA CHALLENGES AT THE UNIVERSITY OF EDINBURGH - JAMIE MCQUEEN, GABRIELA VIEIRA, STEVE FOX

VIRAJ ALAWA

With the changing landscape and rising complexities of research data management (RDM), the College of Medicine and Veterinary Medicine (CMVM) at the University of Edinburgh has embarked on an enhancement of its RDM infrastructure.

Recognising the need for in-house RDM support, CMVM has established Data Manager roles across 5 research institutes. These roles are dedicated to supporting and assisting researchers with effective data management practices in all stages of the research data life cycle. The Data Managers engage directly with researchers to address complex research data issues, develop Data Management Plans (DMPs), manage sensitive data through Data Protection Impact Assessments (DPIAs), and optimise the use of the University's research data resources.

The introduction of Data Managers has received very positive feedback from researchers and research support teams. Their presence within individual institutes has facilitated a deeper understanding of institute-specific research settings, fostering an environment of customised support. Strong working relationships with other key university services, including the Research Data Service, Digital Research Services, Edinburgh Research Office, Information Services and Information Security enable an efficient and thorough resolution to researcher enquiries. In this poster we highlight the many ways the Data Managers support researchers and highlight the benefits of being based within individual research institutes.

HOW DO STUDENTS LEARN? DEMOGRAPHICS IN DIGITAL SKILLS TRAINING PROGRAMMES

KATIE GRIEVE

Digital skills are vital to enable digital research, and developing these skills is important to students' future careers, and the whole sector. The University of Edinburgh offers two opt-in services as a pathway for students to develop digital skills: LinkedIn Learning (LIL), and Digital Skills Training (DST). Each service delivers training in a different way, with LIL being asynchronous and online, and DST instructor-led and synchronous.

This study analyses differences in the student 'type' that attend each of these training pathways, across level of study, College, sex, age, and nationality. Undergraduates, male students, and younger students (ages 17-21) were found more likely to opt for self-led and asynchronous training. Contrastingly, postgraduates, female students, and older students (ages 22+) were more likely to choose DST, learning in-person from an instructor. International students were more likely to take any form of digital skills training than UK-national students. Concepts such as digital shock and the digital divide were suggested as possible explanations behind these differences.

Different student demographics clearly find different forms of learning beneficial. Analysing gaps enables future training provision to identify students who may be excluded, and allows every student to reach potential in digital capacity, and thus widen career opportunities.

VISUALISATION: CREATING ENGAGING AND INTERACTIVE MATERIALS FROM RESEARCH DATA

MARIE STORRAR

In the realm of academic research, data visualisation has emerged as an indispensable tool for transforming complex information into engaging and interactive materials. This poster presentation, "Visualisation: Creating Engaging and Interactive Materials from Research Data," explores the pivotal role of visualisation in effectively communicating research findings to diverse audiences.

This presentation delves into a range of visualisation techniques and tools that empower researchers to present their data in compelling ways, transcending the limitations of traditional text-based formats. From static infographics and charts to dynamic animations and interactive dashboards, we showcase the transformative potential of visual representations in facilitating understanding and fostering engagement.

Through a range of practical examples, this poster presentation aims to equip researchers with the knowledge and skills necessary to harness the power of visualisation in their academic pursuits. Recommendations include the integration of visualisation into the research process from its inception, recognizing its potential to enhance the accessibility, impact, and overall quality of research communications.

DIGITAL SKILLS FOR UNIVERSITY OF EDINBURGH RESEARCHERS

SATU KAPIAINEN

The Digital Skills, Design and Training team within the University's Information Services Group offers a wide range of training courses and resources to support University of Edinburgh researchers throughout their careers. We offer workshops on digital research skills, data skills development paths, guidance on open educational resources, and free access to LinkedIn Learning.

TECHNOLOGICAL SHIFTS AND CONSTITUTIONAL LAW: THE 'MARKETPLACE OF IDEAS' IN FREE SPEECH

TE-YING CHEN

Many legal concepts may change or evolve along with technological advancements.

This research aims to explore the development of the "marketplace of ideas" concept—a key aspect of freedom of speech in the U.S. judicial decisions—from 1919 to the present, and to examine potential shifts in its core value in the future.

BEING AN 'ICHINA' ONLINE – EVERYDAY DISCURSIVE AND HABITUAL (RE)PRODUCTION OF INTERNET-MEDIATED CHINESE NATIONAL IDENTITY IN THE ERA OF CONSUMERISM AND FANDOM

ZHIWEI WANG

This research investigates on how Chinese national(ist) discourses are daily (re)shaped online by socio-political actors (especially ordinary users). I adopt an ethnographic methodology with Sina Weibo and bilibili as 'fieldsites'. The data collection method is virtual ethnographic observation. On each 'fieldsite', I observe how different socio-political actors contribute to the discursive (re)generation of Chinese national identity on a day-to-day basis with attention to forms and content of national(ist) accounts that they publicise on each 'fieldsite', contextual factors of their posting and reposting of and commenting on national(ist) narratives and their interactions with other users about certain national(ist) discourses on each platform. Critical discourse analysis is employed to analyse data. From November 2021 to December 2022, I conducted 36 weeks' observations. Based on fieldnotes of the first week's observations, I found multifarious national(ist) discourses on both 'fieldsites'. Sina Weibo and bilibili users have agency in interpreting and deploying concrete national(ist) discourses despite the leading role played by the government and two platforms in deciding on the basic framework of national expressions. National(ist) discourses' (re)production process on Sina Weibo and bilibili depends upon not only technical affordances of the two sites but also some established socio-political mechanisms and conventions in offline China.

DIGITAL RESEARCH AMBASSADORS 2024

Posters showcasing the work undertaken by our 2024 cohort of Digital Research Ambassadors.