SOFTWARE SUSTAINABILITY INSTITUTE

THE UNIVERSITY of EDINBURGH

Software, Supporting Staff, and Research: Enhancing Collaboration

Roxanne Guildford, Msc FSAScot

University of Edinburgh, School of History, Classics and Archaeology

CDCS PhD Affiliate

Edinburgh Futures Institute

Considerations for Data-Intensive Research

Accessibility

- Data, Software, Training

Standardisation

- Diversity in backgrounds, Education

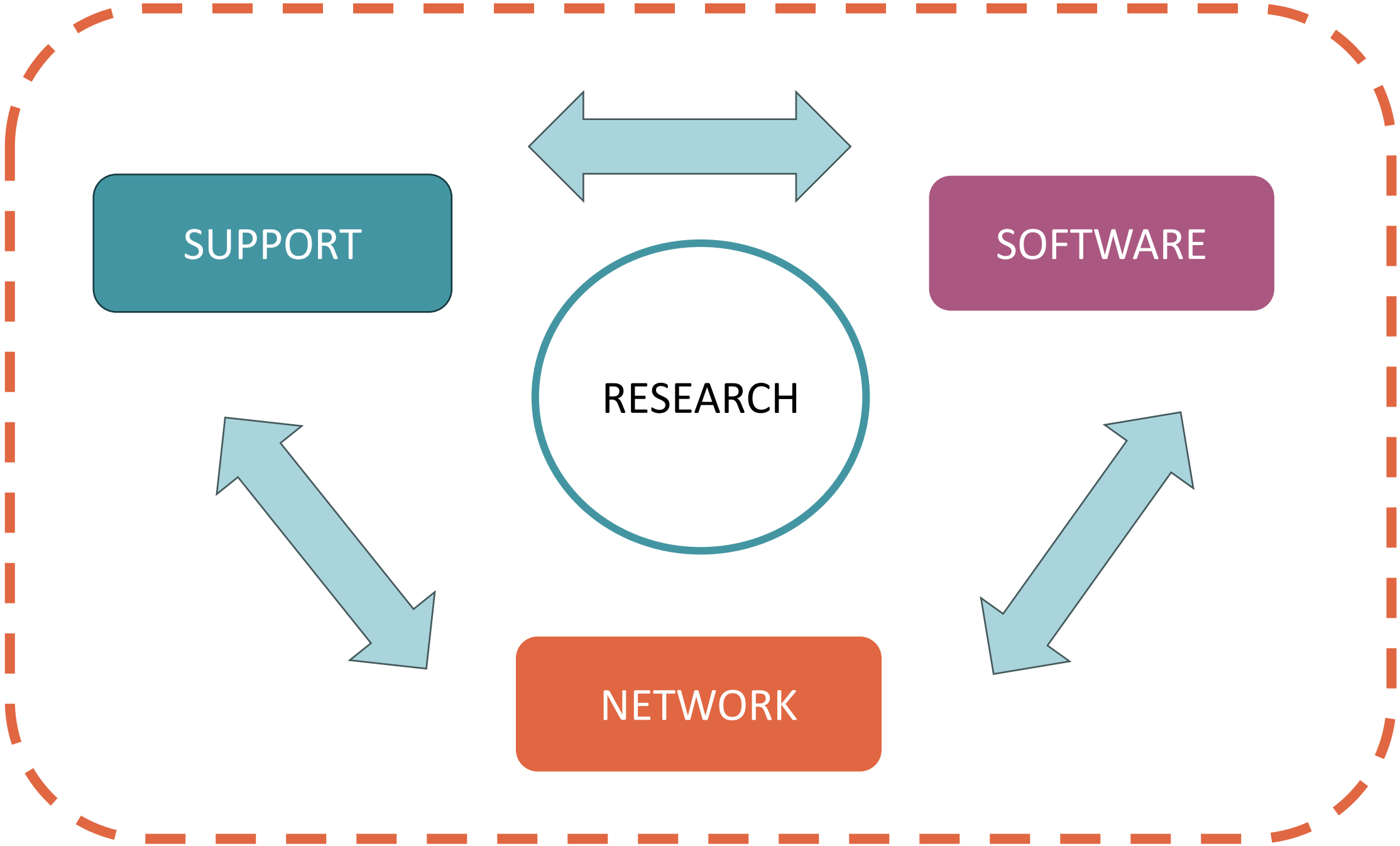
Data Literacy

- + Digital and Computational skills

Data Literacy

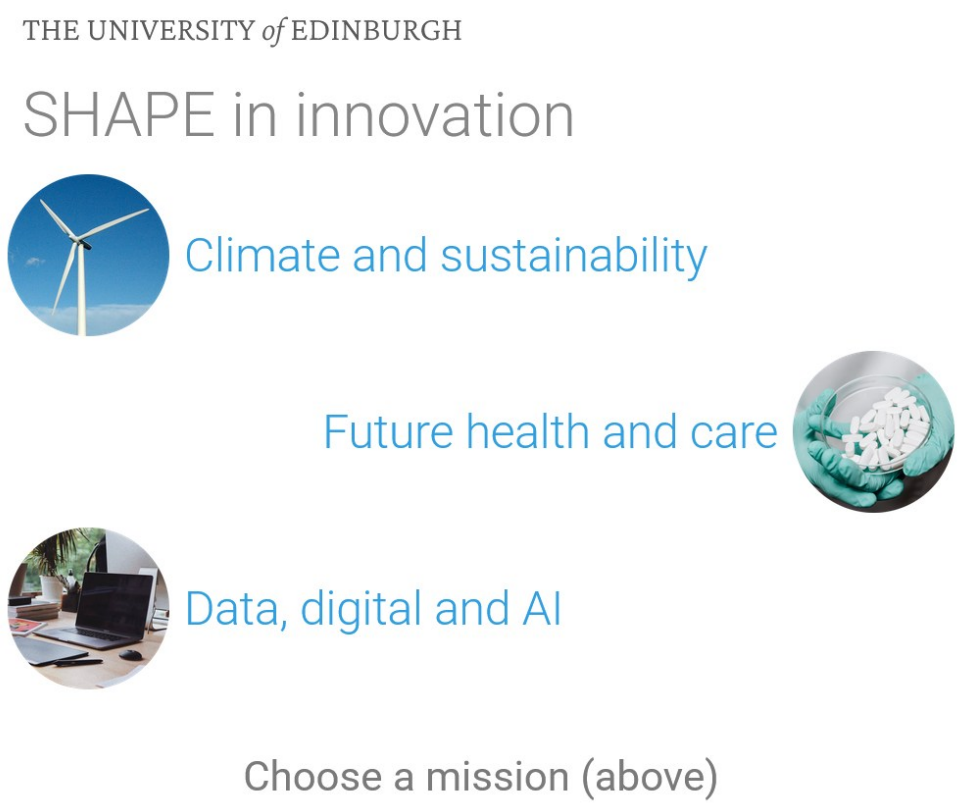
“Data literacy refers to the ability to understand, interpret, critically evaluate, and effectively communicate data in context to inform decisions and drive action.”

https://en.wikipedia.org/wiki/Data_literacy


SUPPORT
SOFTWARE
RESEARCH
NETWORK

SHAPE

Social Sciences, Humanities & Arts for People & the Economy



A tool for understanding the role of SHAPE subjects in generating technological innovation to address major challenges

SHAPE subjects are as important as STEM in developing the technological innovations needed to address major challenges: from achieving Net Zero, to harnessing the benefits of AI, and designing future health and care systems.

This tool:

– Defines eight key dimensions across which SHAPE subjects have a significant role to play in developing new technology.

https://shape-innovation.ed.ac.uk/

Shareable Outputs = FAIR data principals

FINDABLE

- Humans and computers

ACCESSIBLE

- Accessed in the future, long term

INTEROPERABLE

- Integrated with other applications

REUSEABLE

- Replication and experimentation

Software and Sharing

1. Not all software is “open”
2. Licensing issues with software and data outputs
3. Digital literacy and online research

University Resources

1. Information Services Computing: Software Services https://information-services.ed.ac.uk/computing/desktop-personal/software
2. Academic Support Librarians https://library.ed.ac.uk/academic-support-librarians
3. Research Data Service https://library.ed.ac.uk/research-support/research-data-service
4. Information Services: Digital Skills, Design and Training Team https://information-services.ed.ac.uk/help-consultancy/is-skills
5. Software Sustainability Institute https://www.software.ac.uk/
6. Edinburgh Carpentries https://edcarp.github.io/
7. Digital Research Services https://digitalresearchservices.ed.ac.uk/
8. Centre for Data, Culture & Society https://www.cdcs.ed.ac.uk/
9. EFI Research https://efi.ed.ac.uk/research/

Research Network Resources

1. Data Driven Innovation https://ddi.ac.uk/
2. EDINA https://edina.ac.uk/
3. EPCC https://www.epcc.ed.ac.uk/
4. The New Real https://www.newreal.cc/about
5. The Alan Turing Institute https://www.turing.ac.uk/about-us
6. SHAPE https://shape-innovation.ed.ac.uk/about/

Computing Services

1. DataStore: https://www.wiki.ed.ac.uk/display/ResearchServices/DataStore
2. DataSync: https://information-services.ed.ac.uk/computing/desktop-personal/datasync/external-storage
3. DataShare: https://datashare.ed.ac.uk/
4. Virtual Labs Service: https://service-cat.edina.ac.uk/service/853/
5. ELM AI Platform: https://information-services.ed.ac.uk/computing/comms-and-collab/elm
6. Archer2: https://www.epcc.ed.ac.uk/hpc-services/archer2
7. Eddie Research Computer Cluster: https://information-services.ed.ac.uk/research-support/research-computing/ecdf/high-performance-computing

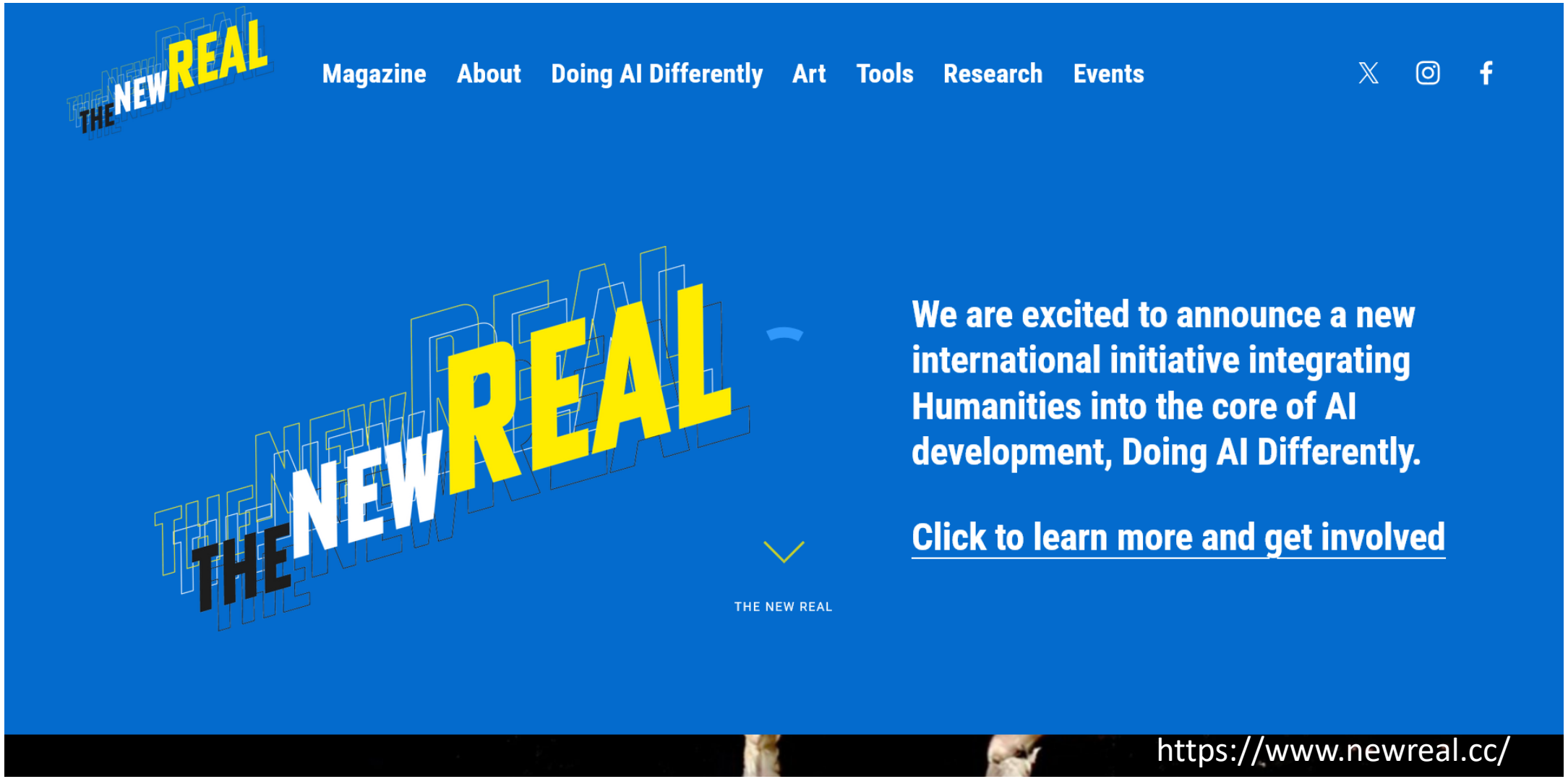
Other Training and Information Resources

1. MANTRA: Research Data Management Training: https://mantra.ed.ac.uk/softwarepracticals.html
2. LinkedIn Learning: https://information-services.ed.ac.uk/help-consultancy/is-skills/linkedin-learning/about-linkedin-learning
3. Managing and Sharing Data: https://dam.ukdataservice.ac.uk/media/622417/managingsharing.pdf
4. Guide to Research Data Management: https://library.ed.ac.uk/sites/default/files/2024-08/A%20Guide%20to%20Research%20Data%20Management%20at%20Edinburgh%202019.pdf
5. Open Research (Open Science) https://library.ed.ac.uk/sites/default/files/2024-08/Quick%20Guide%205%20-%20Open%20Research%20at%20Edinburgh.pdf
6. FAIR Software: https://library.ed.ac.uk/sites/default/files/2024-08/Quick%20Guide%208%20-%20%26%23039%3BFAIR%26%23039%3B%20Software.pdf
7. Choose an open source license: https://choosealicense.com/
8. Good enough practices in scientific computing https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1005510

Conclusion

- Choosing the right software and how your data is stored and shared can aid in collaboration
- Networking can help connect with other researchers and skillsets
- Supporting staff provide access and training for University offered software and signposting to network opportunities
- Associated institutes offer community and connectivity or training resources

Collaborative Research – Technology, Humanities and Art



Collaborative Research – Technology, Humanities and Art

Publications

5 APR 2024

On creative practice and generative AI: Co-shaping the development of emerging artistic technologies (2024)

READ PUBLICATION

14 MAR 2024

Experiential AI: Between Arts and Explainable AI (2024)

READ PUBLICATION

30 NOV 2023

The New Real Magazine: Edition 1

READ PUBLICATION

15 JUN 2023

Agency and legibility for artists through Experiential AI

Research Projects

Doing AI Differently

The Alan Turing Institute & Arts & Humanities Research Council, 2024-25

An international initiative integrating humanities into the core of AI development, led by The Alan Turing Institute, University of Edinburgh and the UK's Arts & Humanities Research Council (AHRC-UKRI) with partner institutions in the UK and North America. The Doing AI Differently initiative challenges traditional approaches to AI development by positioning humanities perspectives as integral—rather than supplemental—to technical innovation.

Uncanny Machines

Alan Turing Institute & Scottish AI Alliance, 2022-24

Research on a complete 'experiential AI' system developed with and for artists and climate advocates. This integrates data stream and forecasting pipelines for selected climate features, combined with AI processing engines to manipulate images, words, sounds and numbers using the climate data and forecasts as the exploratory parameters. This enables the artists to expose the operation of machine learning algorithms, and explore the link between global-scale data and human-scale "ground truth" or reality.

https://www.newreal.cc/

Thank You!


SOFTWARE
SUSTAINABILITY
INSTITUTE


THE UNIVERSITY
of EDINBURGH


EfWG
Funds for Women Graduates


THE UNIVERSITY of EDINBURGH
Edinburgh Futures Institute


DCS
DATA
CULTURE
SOCIETY