



Metastudy Report

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Overview

1. Introduction to Study
2. Summarize Report Findings from January 2023
 - a. Offer Key Findings





1. Introduction to Study

Metastudy Rationale

“a review of ITrust-AI proposed and approved studies to identify what AI methods and products they use in relations to which archival purposes”

- Successes and problems with use of AI within archival functions
- Generate future recommendations on AI use in archives



Methodology

- Evaluate studies use of AI through regular report structure
- Aggregate data in one location with attributes such as:
 - Identified AI Method
 - Archival Function(s) Addressed
 - Types of Records Studied
 - Planned Products of Study



2. Report Findings



AI Methods

- Divide between Semiotic and Non-Semiotic
 - Semiotic Methods: treat binary strings as *representations* of materials or conceptual things and apply rules to them
 - Non-Semiotic Methods: mathematically driven learning with no application of rules
- Alternatively, Symbolic vs. Non-Symbolic
- Frequently used together: AlphaFold 2



Type of Method Used	Studies Using Method
Semiotic	7
Non-Semiotic	12
Both	5
Subtotal	14
not specified	10
not applicable	6

AI methods used in ITrust-AI projects



Archival Functions in the Studies

- Measured the archival functions each study addressed
- Necessary to understand how AI techniques fit with different functions



Working Group	Studies classified by WG Categories	Function	Studies addressing Function	Subfunction	Studies addressing Subfunction
Arrangement & Description	14	Arrangement	10	Classification	4
		Description	10		
Creation & Use	15	Creation	5		
		Use	11		
		Records Management	8		
Appraisal & Acquisition	1	Appraisal	1		
		Acquisition	0		
Retention & Preservation	9	Retention	2		
		Preservation	8		
Reference & Access	9	Reference	3		
		Access	9	Declassification	1

Archival functions addressed in ITrust-AI studies

Archival Function	Studies addressing function	Studies specifying AI method	AI Method Specified				
			Non-semiotic methods			Semiotic Methods	
			Machine Learning	Deep Learning	Computer Vision	Natural Language Processing	Knowledge Management
arrangement	10	8	4	1	3	5	1
description	10	5	2	0	4	1	0
creation	5	2	1	0	0	1	0
use	11	7	4	1	2	3	1
records management	8	2	1	0	1	0	0
appraisal	1	0	0	0	0	0	0
acquisition	0	0	0	0	0	0	0
retention	2	2	0	0	0	0	0
preservation	8	5	2	1	3	0	0
reference	3	2	1	0	1	1	0
access	9	6	3	0	2	3	0
declassification	1	1	0	0	0	1	0

AI Methods Used in Studies by Archival Functions Addressed



Key Takeaway

- Greater potential in the combination of Semiotic and Non-Semiotic methods
 - Non-Semiotic easier to develop yet can be inexplorable and consequently untrustworthy
 - Semiotic methods can apply archival concepts and extend theory
 - Combination of each could enhance predictive power



Key Takeaway

- Lack of studies addressing appraisal and acquisition with AI
 - Does this require future research?
- These represent the first round of conclusions from the use of AI in archives and will further develop as studies progress





Thank you!

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