



Enhancing and Building Tomorrow's Academic Library Today

Ray Uzwyshyn, Ph.D. MA MLIS MBA
Full Professor, Research Impact
Mississippi State University Libraries

The Physical Library is Experiencing a Paradigm Shift from Book Warehouse to Online Research and Service Oriented Learning Commons

80-85 % of Materials Budgets are currently Digital Resources, e-journals and e-books.

Only 15% of purchases are print materials (12% print books, 3% print serials).

Collection Management, Budget Models and Digital Services are all Changing towards Digital and now AI.

Learning Commons, Resource, Multimedia and Tutorials Centers are integrating with the physical Library.

Digital Literacy, Information Literacy, AI Literacy. Writing and Multiliteracy Centers are now integrating with the Libraries



Spectrum of New Technologies, Spaces and Services Possible For Student Success and Faculty Teaching

Data Visualization Walls, Student and Research Faculty & Student Tutorial & Centers, Instant Theatres for Discussion, 3D Printing Labs and Makerspaces



The Library Has Become a Technology Rich Learning Commons, Focused Upon:

- Student and Faculty Research and Teaching Success
- Interdisciplinarity, Digital, Information & AI Literacy
- The library is also a significant third place for socialization and study

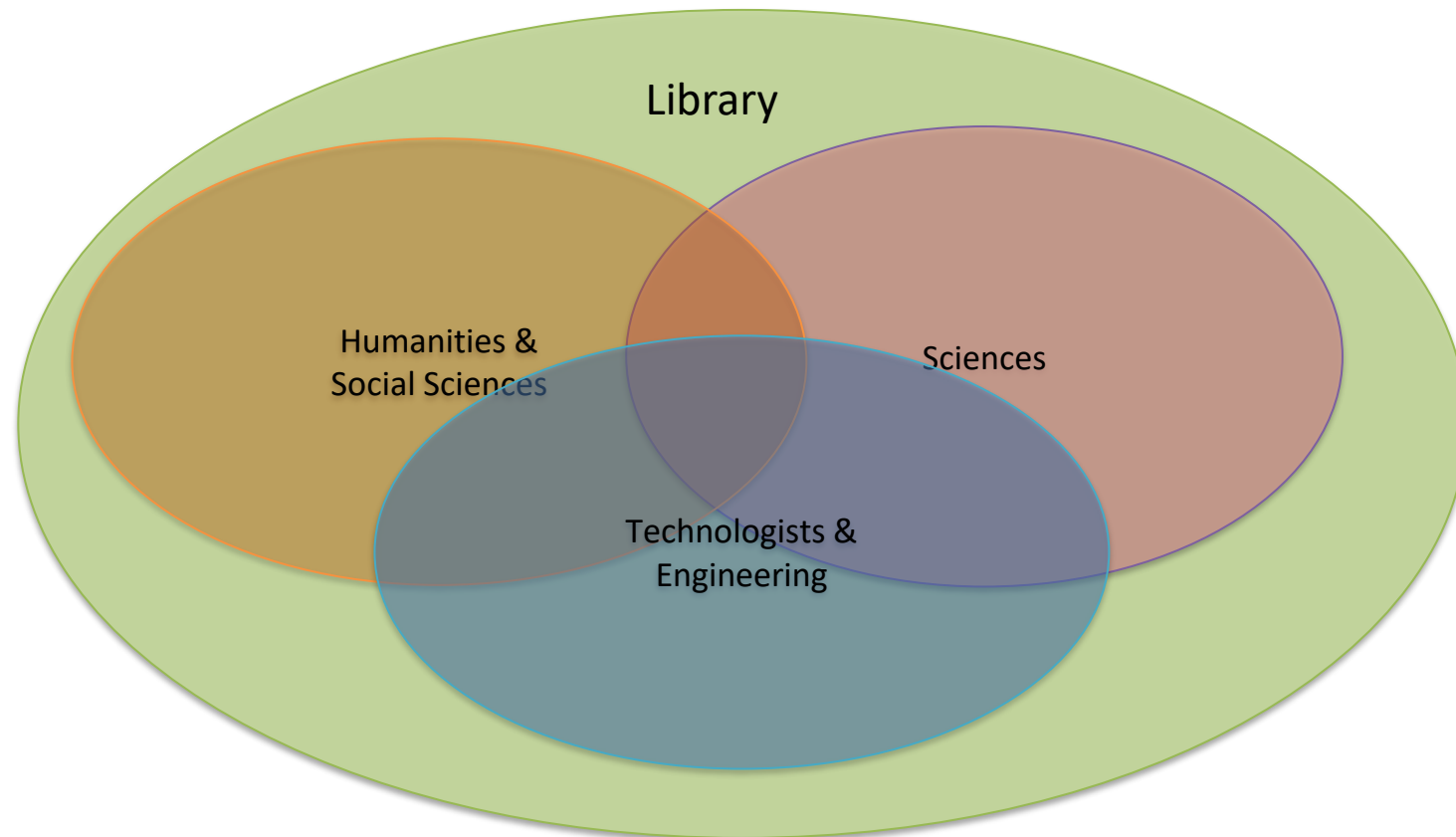


Renaissance Possibility Period for Libraries

Interdisciplinarity, Redefining What Research Help Means,

Information and Digital Literacy, Technology Enhanced Spaces,

What Learning means in the 21st C.



Convergence of
Space, Technology,
Learning

Library as
Safe Great
Third Space for
Higher
Learning both
Physically and
Online

Cross-fertilization of
Projects, Smart, Educated People, Skillsets



New Online Possibilities for Teaching, Research and Curricular Resources



250M+ items from scholarly publishers

60M open access items



53M Subjects

2.2M keywords



123M fields of study

22M MeSH headings



CloudSource

- CloudSource OA (Open Access)
- Article Galaxy Scholar
- >50% of all refereed scholarly research articles are published open access (2024)



**ARTICLE GALAXY
SCHOLAR**

Innovative Interdisciplinary Research Grant Partnerships Are Possible with the Libraries

Among Faculty Divisions, the Library, Schools and Community

Digital & Information Literacy, Diversity & Interdisciplinarity, 2003 U Miami

Open Educational Resources



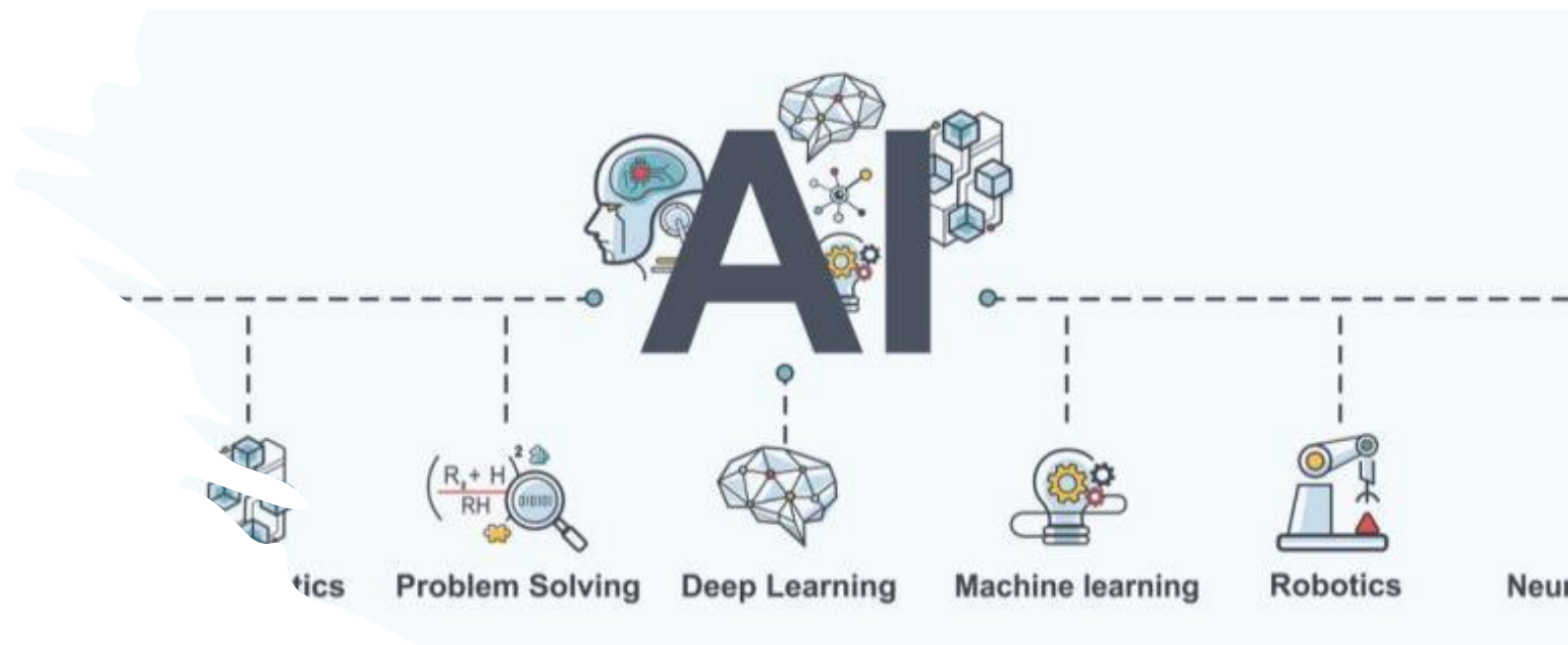
Texas State University, Faculty Training Canvas, 2022

Research Partnerships with Library
School of Education (2003), Texas State University OERTX, 2023
University Art Department/University Museum
Large State Bureau Of Education Grant

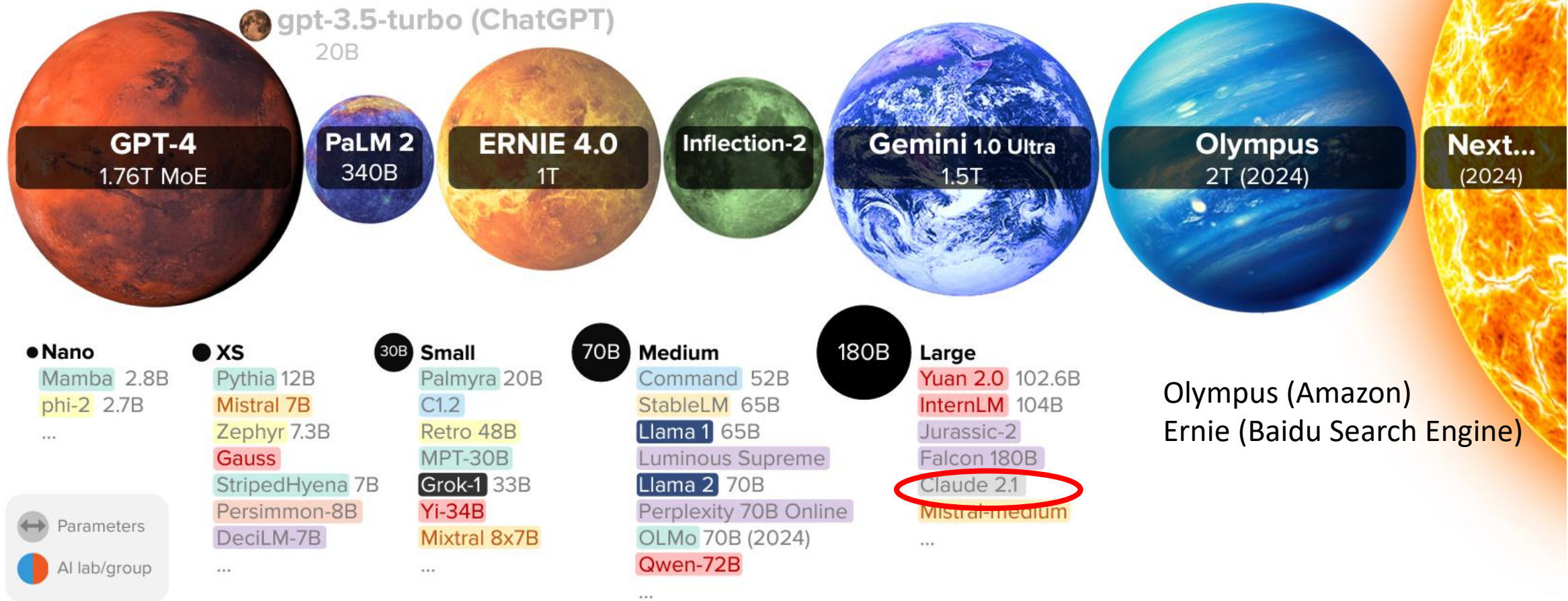
A(AI) Literacies

Needs Arising

- **New Classes of AI Research Competencies Needed**
- **AI Librarian, Prompt Engineering, GPT4+, Dalle-3, Midjourney, Runway, SORA**
- **Autonomous Agents, Multimodal Possibilities, Software Engineering (Devin)**
- **Data Visualization, Analytics, AI Empowering Faculty/Student Learning Teaching and Research**



LARGE LANGUAGE MODEL HIGHLIGHTS (DEC/2023)



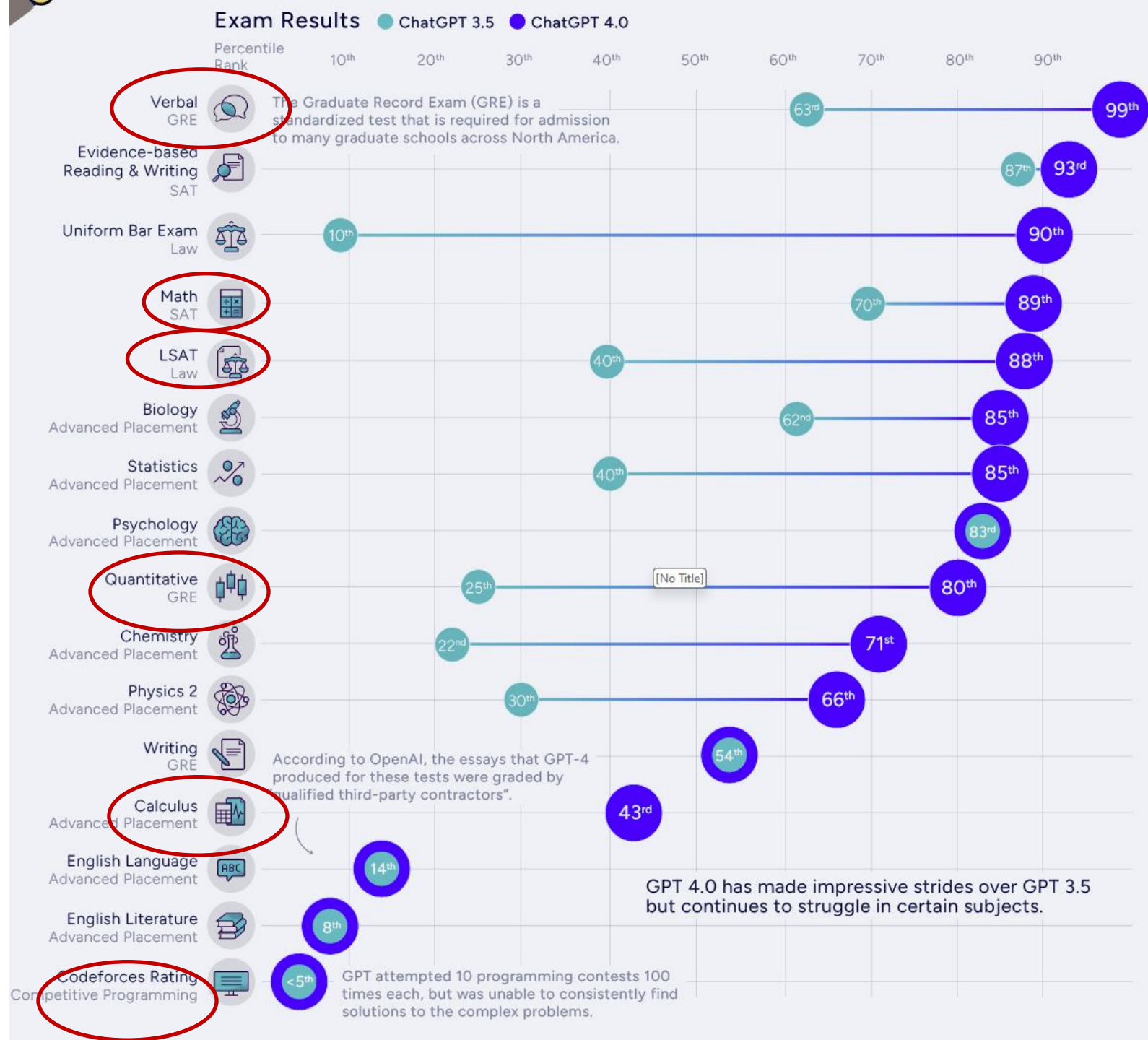
Olympus (Amazon)
Ernie (Baidu Search Engine)

Sizes linear to scale. Selected highlights only. All models are available. All models are Chinchilla-aligned (20:1 tokens:parameters) <https://lilearchitect.ai/chinchilla/> All 200+ models: <https://lilearchitect.ai/models-table/> Alan D. Thompson. 2023.

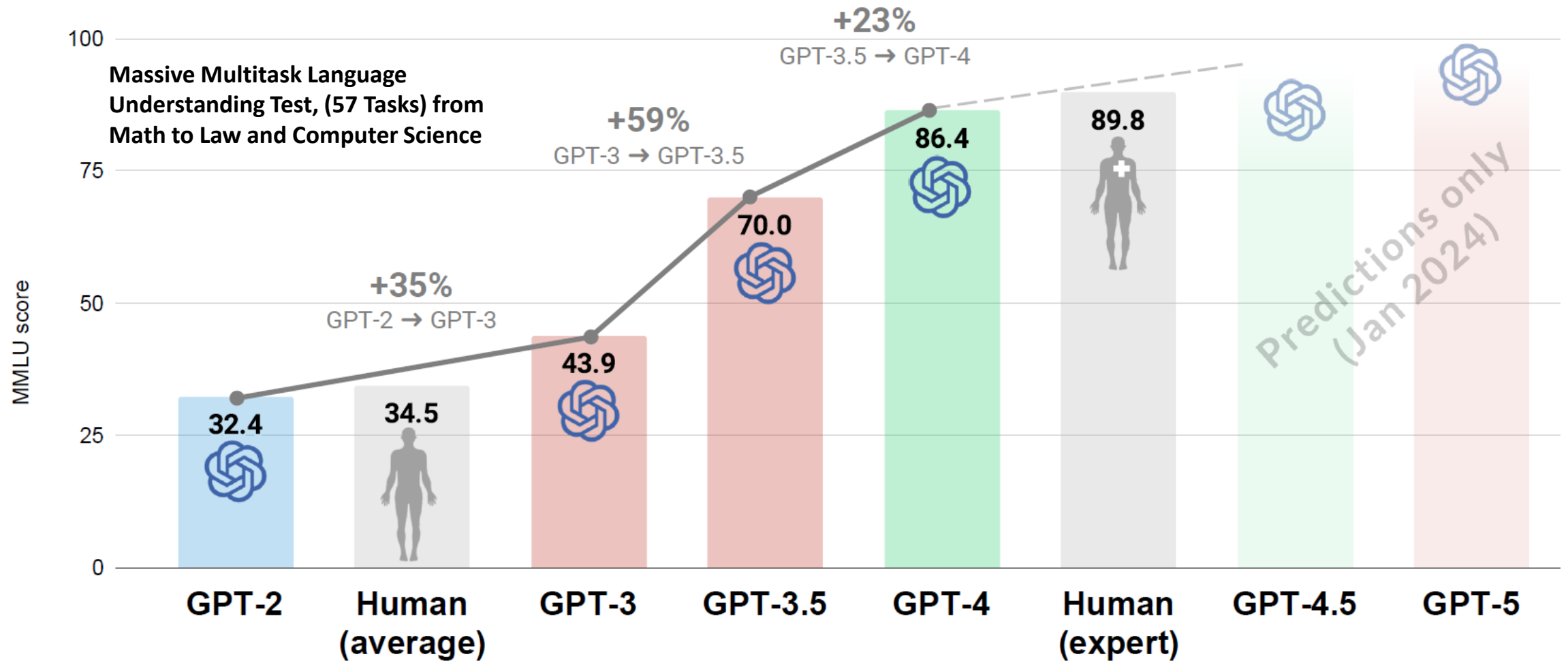
GPT-4's Mixture of Experts Model (MoE model) is believed to house 16 expert models, each with around 111 billion parameters each. The Mixture of Experts (MoE) is offering a unique approach to efficiently scaling models while maintaining, or even improving, their performance. Traditionally, the trade-off in model training has been between size and computational resources

ChatGPT 3.5 and ChatGPT 4.0

on well recognized North American
High School, University
Undergraduate and Graduate School
Entrance and Professional
Accreditation Tests
(Human intelligence tests)
Visualcapitalist.com



LLMS: SMARTER THAN WE THINK (JAN/2024)

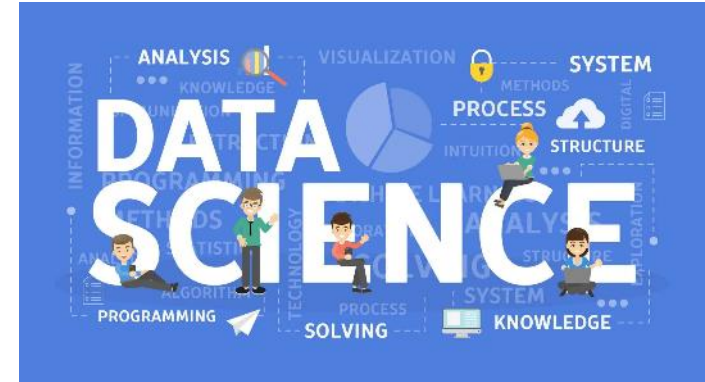


MMLU (Massive Multitask Language Understanding) benchmark features 57 tasks including mathematics, US history, computer science, law, and more. % increases rounded. <https://lifearchitct.ai/gpt-4-5/> Alan D. Thompson. 2024.



Universities, Research, Libraries, Data and AI

Clear Trajectory
in Libraries from
Data Collection
To Data Science ->
Data Research
Repositories ->
Data Analytics ->
Data Visualization >
AI



Academics Require Research Data Repositories

AI Requires: Processing Power (Microprocessor) + Data + Storage (Memory) + Global Networks



Texas State University Dataverse
A platform for publishing and archiving Texas State University's research data.

Dataverse

TEXAS STATE
UNIVERSITY LIBRARIES



[About](#) [Documentation](#) [FAQs](#) [Log In](#) [Help](#)

Search the Texas Data Repository

Search... **FIND**



Add a Dataset



Create a Dataverse



Explore Data
Repository



Learn More



Get Help

Publish and Track Your Data, Discover and Reuse Others' Data!



2014-2017, Texas Data Research Repository, Data Sharing, Collaboration, Data Visualization, Tableau, Discovery and Insights, Artificial Intelligence



Data Research Repositories Allow Building Skills For AI

Data Organization, Data Cleaning, Structured Data Citation, Sensitive Data and Metadata Schemas

Harvard Dataverse Network

Search, Info, Comments, Create Acc

REPLICATION DATA FOR: A MULTIVARIATE MODEL OF STRATEGIC ASSET ALLOCATION

hdl:1902.1/QBXRSFLBQJUNF:3:ZnYhHkZe2veTJAWaBDpPKA==

Version: 2 – Released: Thu Oct 03 16:46:32 EDT 2013

CATALOGING INFORMATION

Data & Analysis

Comments (0)

Versions

i If you use these data, please add the following citation to your scholarly references. [Why cite?](#)

John Y. Campbell; Yeung L. Chan; and Luis Viceira, 2007, "Replication data for: A Multivariate Model of Strategic Asset Allocation", <http://hdl.handle.net/1902.1/QBXRSFLBQJUNF:3:ZnYhHkZe2veTJAWaBDpPKA==> The Harvard Dataverse Network [Distributor] V2 [Version]

Citation Format

i Results found in this publication can be replicated using these data.

Original Publication


Campbell, John Y.; Chan, Yeung Lewis; and Viceira, Luis M., 2003, "A multivariate model of strategic asset allocation," *Journal of Financial Economics*, Elsevier, vol. 67(1), pages 41-80: [article available here](#)

Publications

John Y. Campbell & Yeung Lewis Chan & Luis M. Viceira, 2001. "A Multivariate Model of Strategic Asset Allocation," NBER Working Paper, National Bureau of Economic Research, Inc. [article available here](#)

Campbell, John Y & Chan, Yeung Lewis & Viceira, Luis M, 2001. "A Multivariate Model of Strategic Asset Allocation," CEPR Discussion Paper 3070, C.E.P.R. Discussion Papers. [article available here](#)

Data Citation Details

Title	Replication data for: A Multivariate Model of Strategic Asset Allocation
Study Global ID	hdl:1902.1/QBXRSFLBQJ
Authors	John Y. Campbell (Harvard University); Yeung L. Chan; and Luis Viceira
Producer	John Y. Campbell 
Production Date	2003
Funding Agency	National Science Foundation; Hong Kong RGC Competitive Earmarked Research Grant (HKUST 6965/01H); Division of Research of the Business School

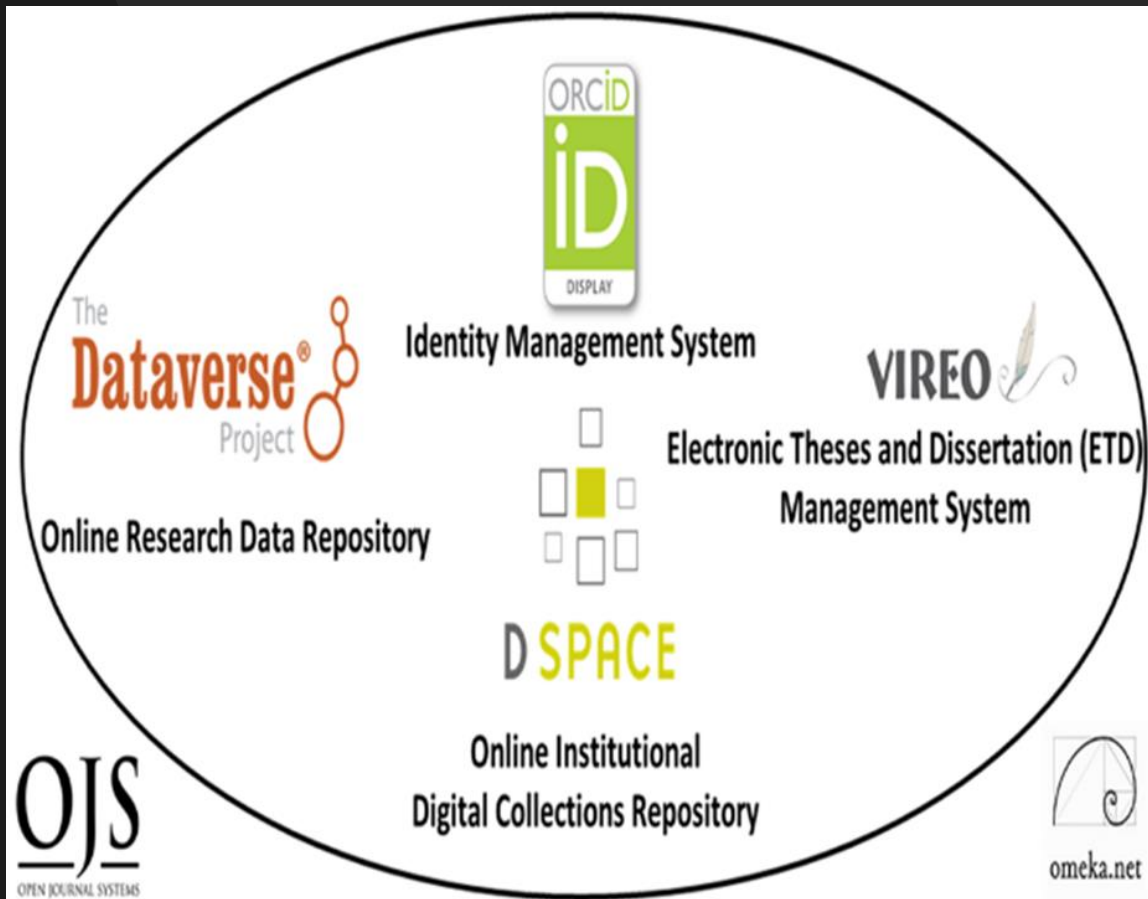
Data Citation



OpenRefine is a powerful tool for working with data: (cleaning it)

Digital Scholarly Research Ecosystem

Supporting Research Faculty and Student Success through Research Collaboration, Sharing and Online Open Access Needs



PRIMARY

- Research Data Repository (Dataverse)
- Digital Research Collections Repository (Dspace, 2021)

TERTIARY

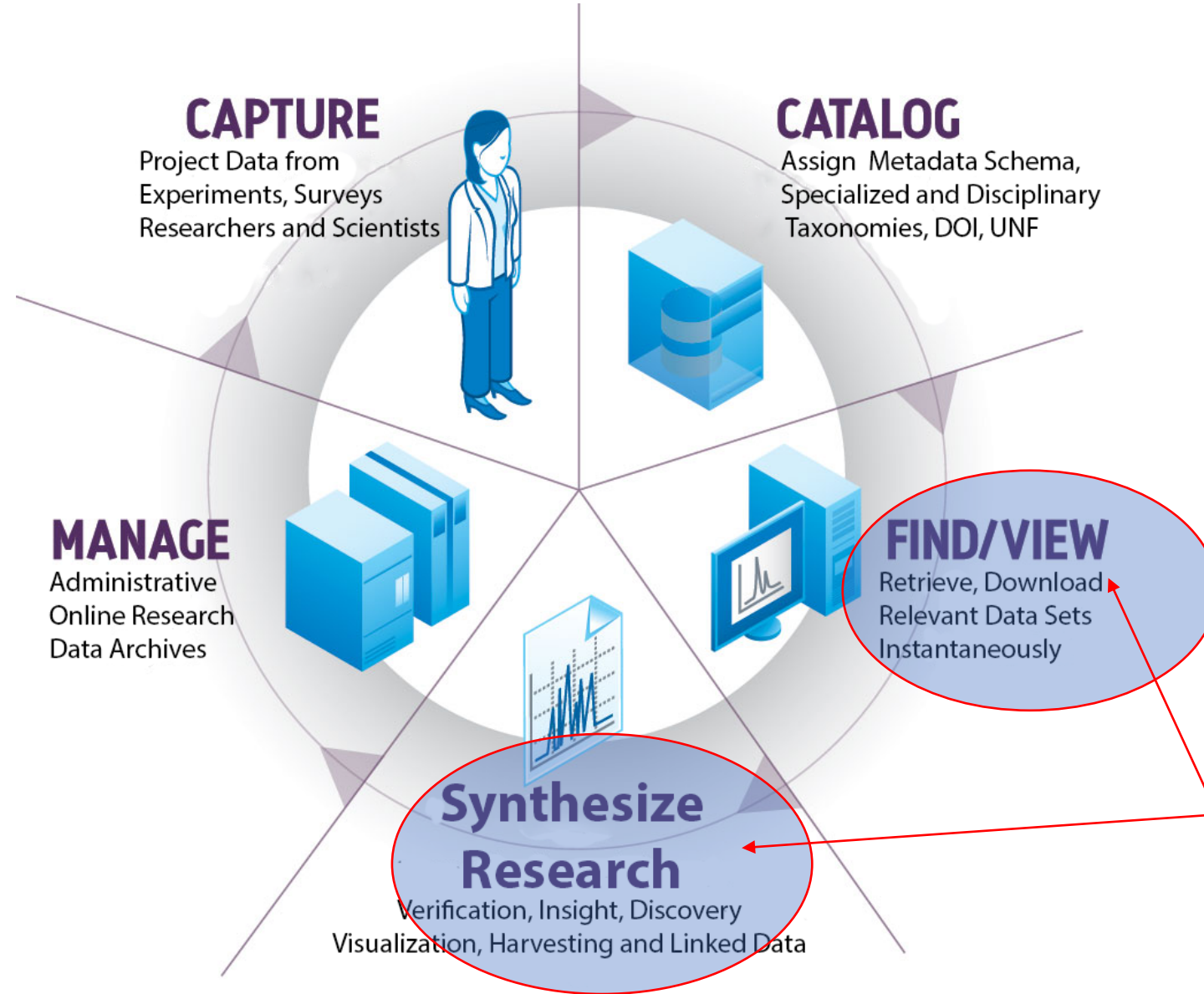
- Electronic Thesis and Dissertation Management System (VIREO)
- Identity Management System (ORCID)
- Academic Journal Software (OJS3)
- User Interface/Content Management Software (OMEKA)



- [Texas State Digital Scholarly Research Ecosystem](#)

The Research Data Lifecycle and Libraries

Setting Better Foundations & Organization for AI Infrastructures



Data Repository provides Basic AI, Machine Learning, Open Science and Research Needs.

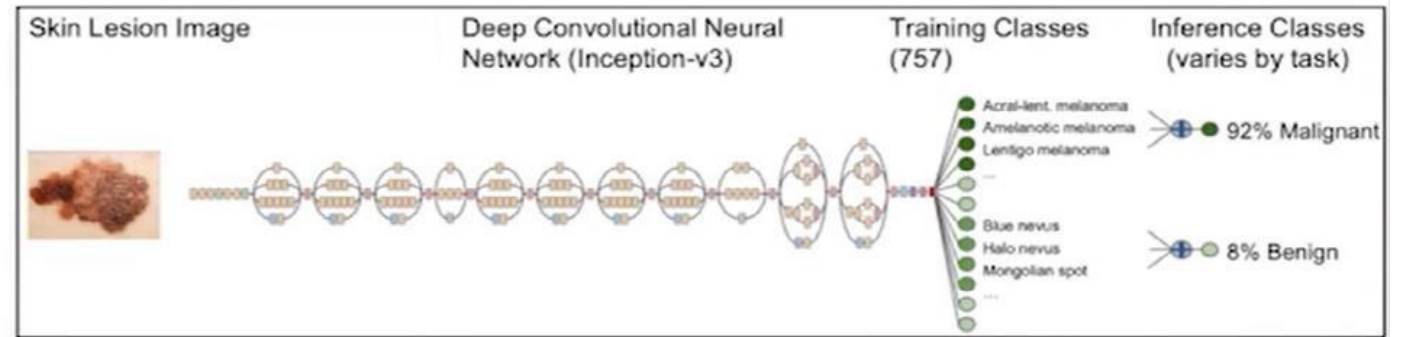
Dermatologist-level Classification of Skin Cancer with Deep Neural Networks,

Nature 2017, Andre Esteva, Brett Kupress, Sebastian Thrun et al.

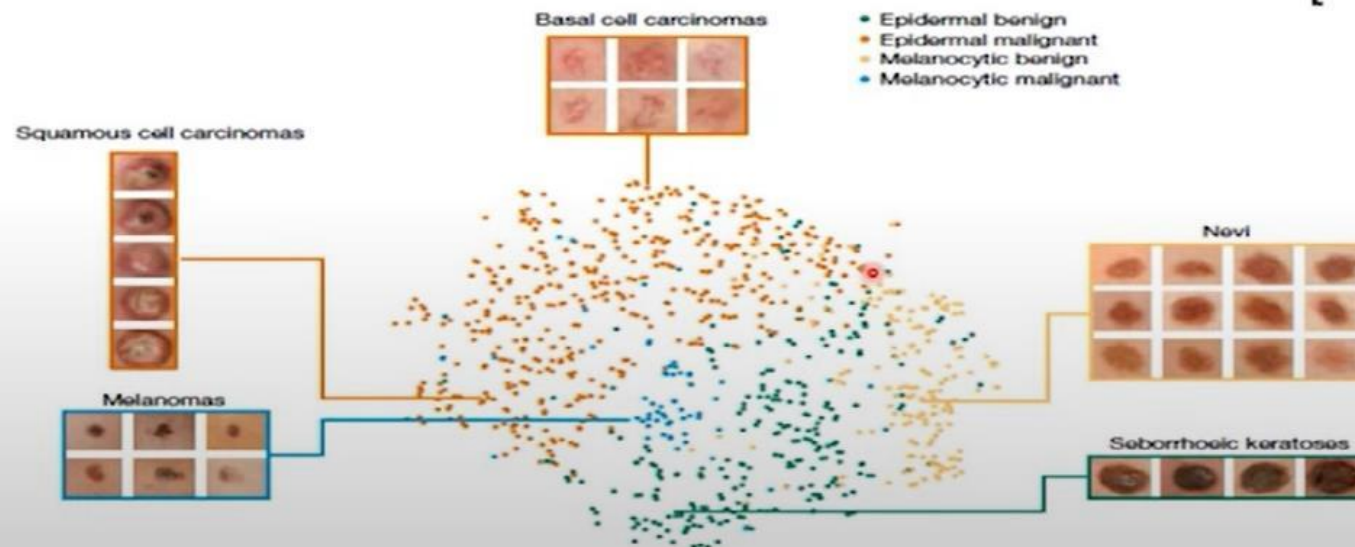
Labeled Medical Data from Image Data Archives to Training AI Models (Deep Learning), Convolutional Neural Nets,

Skin Cancer Diagnosis:

Trained on 1.4 M standard photographs
Retrained on 129,450 skin images
Deep net Inception v3 architecture
Outperforms doctors



[Esteva et al., Nature 2017]



Open Science, Data Research Repositories, Discovery, Reuse and AI

[Video](#)
[Stanford](#)
[Overview](#)

- Table of Contents
- List of Figures
- List of Tables
- Nomenclature
- Introduction
- Related Work
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- Dataset Description**
- Dataset Pre-processing
- Model Training
- Model Building and Evaluation by CNN Model using Keras Sequential API
- Model Building and Evaluation using RESNET50
- Model Building and Evaluation using DENSENET121
- Model Building and Evaluation using VGG11
- Conclusion
- Bibliography

An Efficient Deep Learning Approach to Detect Skin Cancer

by

Ashfaqul Islam

20341030

Daiyan Khan

19141024

Rakeen Ashraf Chowdhury

16141014

A thesis submitted to the Department of Computer Science and Engineering in partial fulfillment of the requirements for the degree of B.Sc. in Computer Science

Department of Computer Science and Engineering
Brac University
September 2021

The Progress of Knowledge Through Global Open Science & Network Possibilities

2017 Stanford Nature Deep Learning Cancer ID Article

2018 Viennesse Doctor in Austria uploaded Dermatological Image Library to **Harvard Dataverse Data repository**

2021 (November) Undergrad Thesis Published in Dspace Repositor
BRAC University, Dhaka Bangladesh, Dept. of Computer Science and Engineering

All Downloaded July 2022 Texas, USA for Dublin IFLA Big Data Presentation

An efficient deep learning approach to detect skin Cancer



View/Open

20341030, 19141024,
16141014_CSE.pdf (2.208Mb)

Date

2021-09

Publisher

Brac University

Author

Islam, Ashfaqu
Khan, Daiyan
Chowdhury, Rakeen Ashraf

Metadata

Show full item record

URI

<http://hdl.handle.net/10361/15932>

Abstract

Each year, millions of people around the world are affected by cancer. Research shows that the early and accurate diagnosis of cancerous growths can have a major effect on improving mortality rates from cancer. As human diagnosis is prone to error, a deep-learning based computerized diagnostic system should be considered. In our research, we tackled the issues caused by difficulties in diagnosing skin cancer and distinguishing between different types of skin growths, especially without the use of advanced medical equipment and a high level of medical expertise of the diagnosticians. To do so, we have implemented a system that will use a deep-learning approach to be able to detect skin cancer from digital images. This paper discusses the identification of cancer from 7 different types of skin lesions from images using CNN with Keras Sequential API. We have used the publicly available HAM10000 dataset, obtained from the Harvard Dataverse. This dataset contains 10,015 labeled images of skin growths. We applied multiple data pre-processing methods after reading the data and before training our model. For accuracy checks and as a means of comparison we have pre-trained data, using ResNet50, DenseNet121, and VGG11, some well-known transfer learning models. This helps identify better methods of machine-learning application in the field of skin growth classification for skin cancer detection. Our model achieved an accuracy of over 97% in the proper identification of the type of skin growth.

Keywords

Cancer detection; Convolutional neural networks; Image classification; Deep learning

LC Subject Headings

Machine learning; Cognitive learning theory (Deep learning)

Description

This thesis is submitted in partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science and Engineering, 2021.

POLICY GUIDELINES

- BracU Policy
- Publisher Policy

Search



Search BracU IR

This Collection

BROWSE

All of BracU Institutional Repository

Communities & Collections

By Issue Date

Authors

Titles

Subjects

This Collection

By Issue Date

Authors

Titles

Subjects

MY ACCOUNT

Login

Register



DSpace

Digital Collections
Repository

Dspace

<http://dspace.bracu.ac.bd/xmlui/handle/10361/15932>

BRAC University
Libraries
Institutional
Repository

R&D & Learning, Area 1: Digital and Web Services

Deep Learning Models and Convolutional Neural Nets

(2019 Begun, Early 2022 Presented, TCDL, Galway, National University of Ireland, IFLA Dublin, IR)

- **University Archives**

San Marcos Public
Newspaper Image Negatives
90 years of digitization 800, 000 images

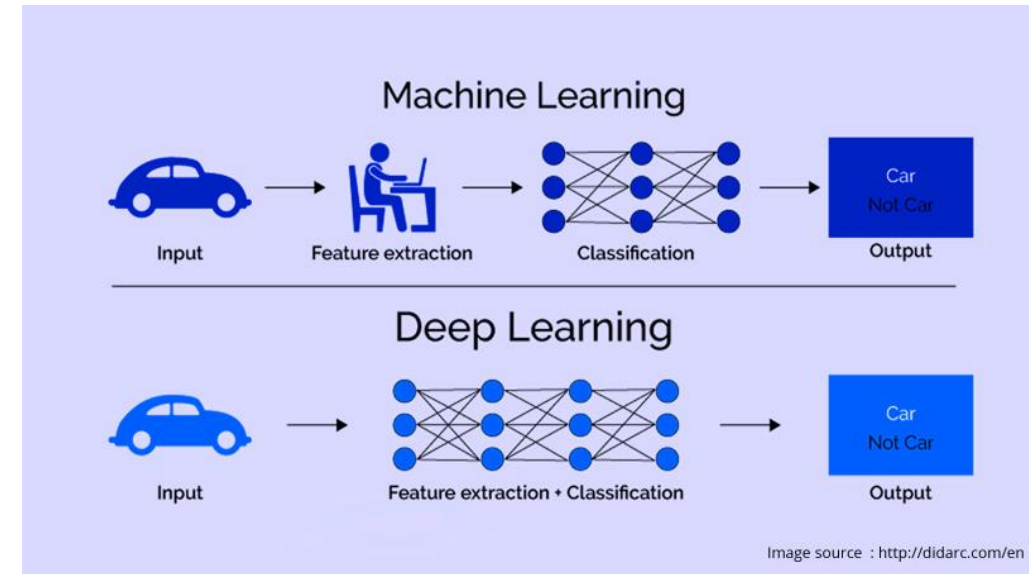
- **Processing Power
(Compute)**

- **Python**

- **Video Cards
(NVIDIA GPU's)**

- **Pretrained Models**

- **ResNet, YOLO, COCO
(200k labeled images, 80 categories)**



Core Academic Library Systems Services Changing (Shift to AI)

Interlibrary Loan Service
Taking Larger Research
Role
(Article Galaxy Scholar)

Larger Discovery &
Research Services
Possible

Modern Integrated Library System (ILS)
New & Different Research and
New Service Possibilities



Collection Development Services Transforming Through New Digital Resource Possibilities & Media, Interactivity, Courseware, Personalization



Priorities Shifting From Purchasing Physical
Materials
To eResource Access, Open Access Models and
OER (Open Educational Resources)

**Changing Models From
Ownership of Books to Access to Information
and Vetted Direct Response from Data/Research (AI)**

Tight Research Online Library Integration with Online Classroom is Possible

Learning Management System



American Public University

Home

Courses

Online Library

Student Handbook

Transfer Credit

MY STUDENT RECORD

Register Now

Enter Classes

Personal Information

Change Password
Change Contact Information

RMS Menu

Request Application
Request Withdraw from Course
Request Program Hold Request
Request Course Extension
Request Academic Program
Request US Transcript Orders

Online American Public University System Library

APUS » Online Library: CampusGuides » Home

Home

Course Guides

Electronic Reserves

Library Services

Tutorial Center

University Archives

University ePress

Help

Quick Links



• [Course Guides](#)

Library Collections Quick Access

Articles & Books

Journals

Databases

Course Guides

search

Search AquaBrowser for articles and books.

Library Partnerships with Teaching Faculty

Online Course Guides

Direct
Curricular
Replacement

Secondary
Multimedia
Bibliography

University Global
Marketing/Branding/ROI



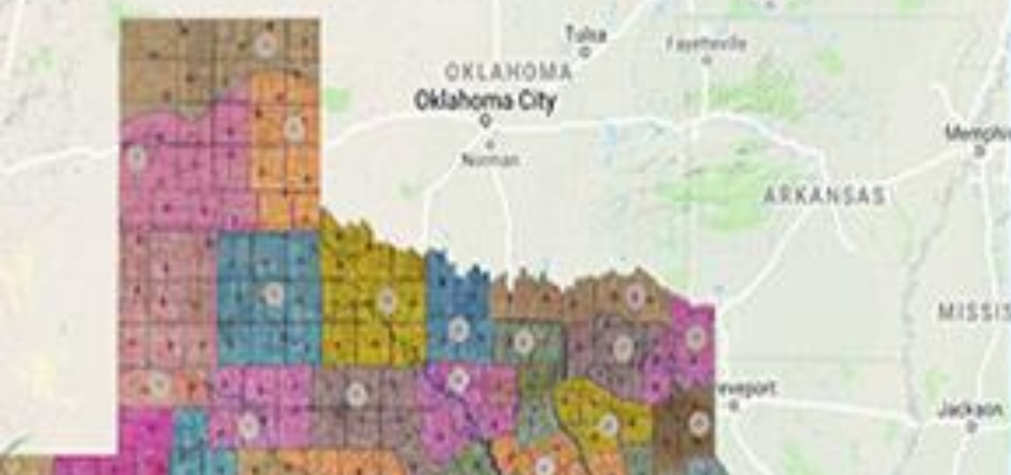
The screenshot shows the 'Online Library' page for the American Public University System (APUS). The page title is 'EVSP331 Public Lands Management | Course Guide'. It includes a search bar, navigation tabs for 'Home', 'Articles/Journals', 'Books', 'Multimedia', 'Web Resources', and 'Writing/Citing'. The main content area is divided into three columns: 'Bureau of Land Management News Feed' with a list of news items, 'Welcome!' with a 'Welcome to the EVSP331 Public Lands Course Guide!' message and a 'See also:' section, and 'Librarian' with a photo of Priscilla Coulter, M.S., M.L.S. and social media links. A video player at the bottom shows 'The Escape Artist - Muddy Mountains Wilderness'.

The National Tour of Texas

----- The Ultimate Texas Road Trip

Texas

Passing through the state



Introduction



In 1987, Dick J. Reavis, Texas Monthly

Reavis divided Texas into roads that never existed in articles in Texas

The Dick J. Reavis photographs, collected postcards, notes on his travels and

You can now follow Reavis's journey -- or create your own

s map, or you can reserve here, use

road trip in a vide

or of seven books Volunteer; Catcher; City, a Senior Editor; Professor of English

Highlights

Note Excerpts with Then and Now images

Guide to

New Services
Enabling Digital
Scholarship From
Digital Humanities
To STEM Sciences

- Collaboration with Research Faculty, Graduate Student and the Community Connects the Library to the wider academic and cultures of the environment

the making of Severo Perez's

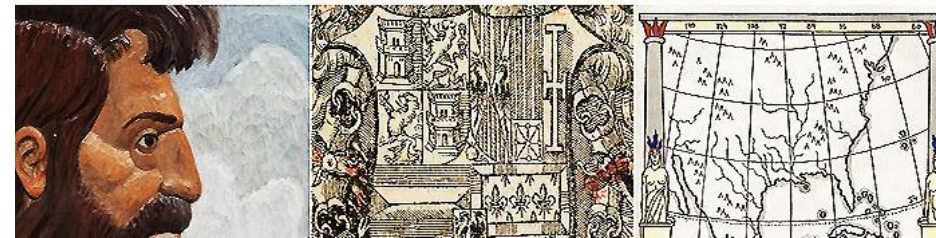
...and the earth did not swallow him



ABOUT * STORY & SCRIPT * CAST * FILMING/PRODUCTION * POST-PRODUCTION * ACCLAIM & AWARDS *

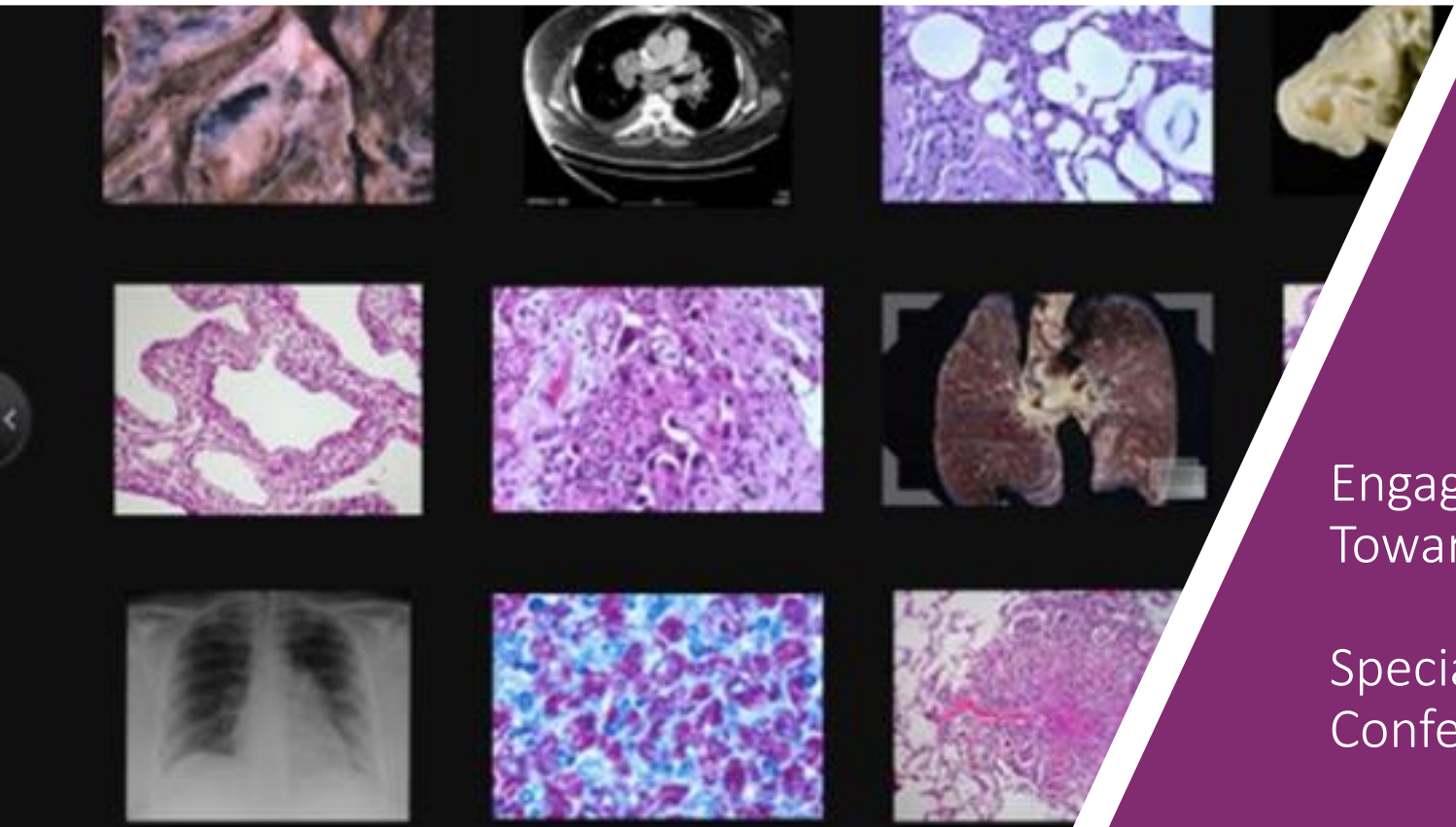


About



The Cuban Rafters Phenomenon A Unique Sea Exodus

Introduction
Main Site



New Genres of Digital Archives Possible

Engagement With Student & Faculty
Towards Learning, Teaching & Research Success

Special Collections/Multimedia
Conference/Colloquia Possibilities

University Libraries of Tomorrow are Still Places for Inspiration, Reflection, Study



Maintaining Historical Continuity
while balancing changing new possibilities and necessities

Thank you!

Comments or Questions

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ruzwyshyn@gmail.com

Dataverse Data Research Repository Metadata

Dermatology Image Dataset,
Dr. Philip Tschandl, Viennese
Dermatologist

- Great Example of Open Science & Metadata
- <https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/DBW86T>

The screenshot shows the Harvard Dataverse website interface. At the top, the Harvard Dataverse logo is on the left, and navigation links for 'Add Data', 'Search', 'About', 'User Guide', 'Support', 'Sign Up', and 'Log In' are on the right. Below the header, the page title is 'ViDIR Dataverse (Medical University of Vienna)'. A breadcrumb trail shows 'Harvard Dataverse > ViDIR Dataverse >'. The main heading is 'The HAM10000 dataset, a large collection of multi-source dermatoscopic images of common pigmented skin lesions', with a 'Version 3.0' badge. A document icon is next to the citation text: 'Tschandl, Philipp, 2018, "The HAM10000 dataset, a large collection of multi-source dermatoscopic images of common pigmented skin lesions", https://doi.org/10.7910/DVN/DBW86T, Harvard Dataverse, V3, UNF:6:APKSsDGVDhwPBWzsStU5A== [fileUNF]'. Below the citation are links for 'Cite Dataset' and 'Learn about Data Citation Standards.'. On the right side, there are buttons for 'Access Dataset', 'Contact Owner', and 'Share'. Below these is a 'Dataset Metrics' section showing '58,334 Downloads'. A 'Description' section at the bottom contains a paragraph about the dataset's purpose and the types of skin lesions included, with some terms like 'akiec', 'bcc', 'bk1', 'df', 'mel', 'nv', and 'vasc' highlighted in red.

HARVARD
Dataverse


Add Data Search About User Guide Support Sign Up Log In

ViDIR Dataverse
(Medical University of Vienna)

Harvard Dataverse > ViDIR Dataverse >

The HAM10000 dataset, a large collection of multi-source dermatoscopic images of common pigmented skin lesions

Version 3.0

 Tschandl, Philipp, 2018, "The HAM10000 dataset, a large collection of multi-source dermatoscopic images of common pigmented skin lesions", <https://doi.org/10.7910/DVN/DBW86T>, Harvard Dataverse, V3, UNF:6:APKSsDGVDhwPBWzsStU5A== [fileUNF]

Cite Dataset Learn about Data Citation Standards.

Access Dataset Contact Owner Share

Dataset Metrics
58,334 Downloads

Description

Training of neural networks for automated diagnosis of pigmented skin lesions is hampered by the small size and lack of diversity of available dataset of dermatoscopic images. We tackle this problem by releasing the HAM10000 ("Human Against Machine with 10000 training images") dataset. We collected dermatoscopic images from different populations, acquired and stored by different modalities. The final dataset consists of 10015 dermatoscopic images which can serve as a training set for academic machine learning purposes. Cases include a representative collection of all important diagnostic categories in the realm of pigmented lesions: Actinic keratoses and intraepithelial carcinoma / Bowen's disease (**akiec**), basal cell carcinoma (**bcc**), benign keratosis-like lesions (solar lentiginos / seborrheic keratoses and lichen-planus like keratoses, **bk1**), dermatofibroma (**df**), melanoma (**mel**), melanocytic nevi (**nv**) and vascular lesions (angiomas, angiokeratomas, pyogenic granulomas and hemorrhage, **vasc**).

Core Academic Library Systems

Paradigm Shift to AI

Larger Discovery & Research Services Possible

Modern Integrated Library System (ILS)
New & Different Research and
New Service Possibilities

Term: Fine Tuning of Large Language Models
(i.e. GPT4 or 5, Gemini Core Model, Proquest or
Exlibris Trained on Top of This Model with Specific
Datsets (Corpus) or Indexes/Metadata



R&D, Academic Technology Conferences and Learning, 2018-2022



Coalition for Networked Information (D.C.) ,
Yale Art History Project ,Pixplot (Image Categorization), 2018, Peter Leonard (Neural Nets)

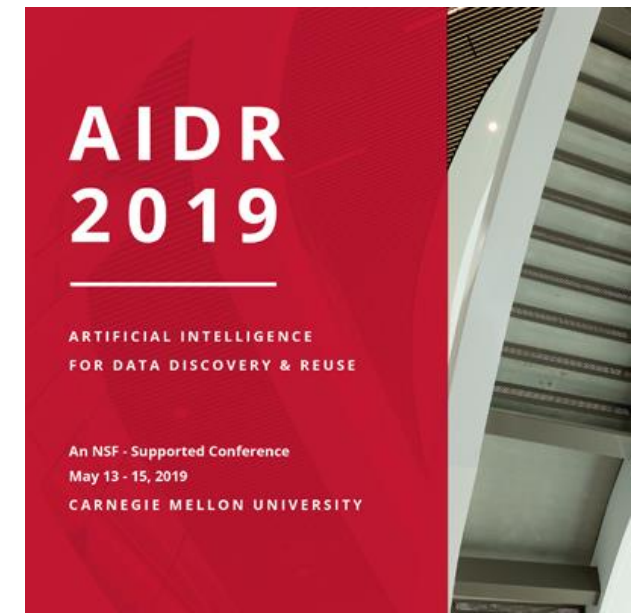


Artificial Intelligence for Data Discovery & ReUse & Open Science Symposium (2020), Carnegie Mellon, Pittsburgh

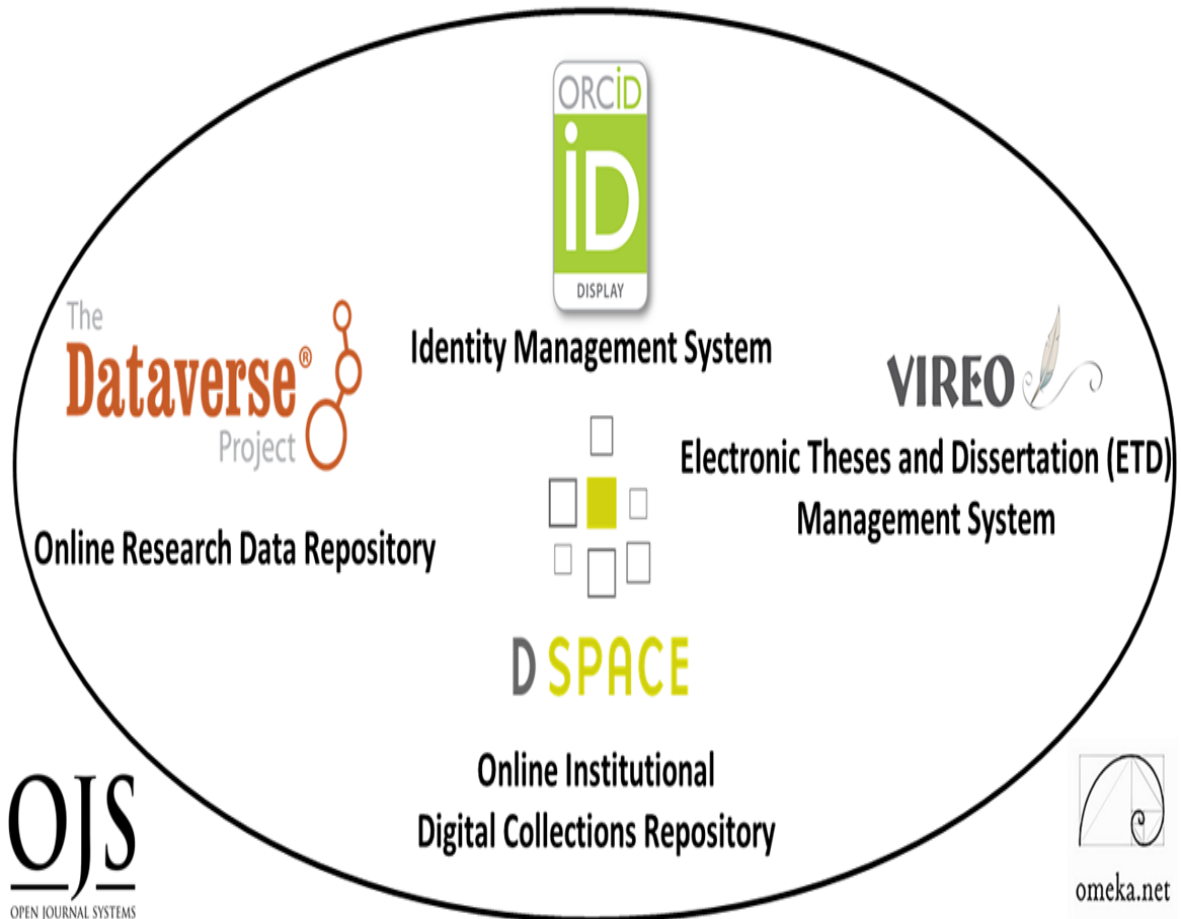


Fantastic Futures
2nd International Conference on AI for Libraries, Archives and Museums
Stanford Libraries (2019)

Texas Conference on Digital Libraries,
Patrice Andre Prud'homme (TCDL) Oklahoma State (2019),



Digital Scholarship Research Ecosystems, Foundations for Academic Research and AI Six Open Source Software Components



TWO PRIMARY COMPONENTS (Content)

- RESEARCH DATA REPOSITORY
- DIGITAL COLLECTIONS REPOSITORY

FOUR TERTIARY COMPONENTS (Communication)

- Electronic Thesis and Dissertation Management System
- Identity Management System
- Open Academic Journal Software
- User Interface/Content Management Software

AI, Large Language Models (LLM's) and GPT's

Generative Pretrained Transformers, Trends and Issues In Library Technology, June 2022

Editorial Overview

Introduction: Artificial Intelligence in Libraries

Ray Uzwyshyn, ruzwyshyn@txstate.edu
Texas State University Libraries



AI in Libraries and Education, Tierney, Courtesy Adobe Stock

Introduction

The world is changing, and technological paradigms of AI are quickly being adopted in the world of libraries and information management. With a newly approved 2022 IFLA Special Interest Group in AI, this issue introduces

Conversion to BIBFRAME triples is also contextualized and detailed. National library perspectives can act as a gateway towards helping semantic web-linking and future AI harnessing possibilities. Complex AI-related projects

Spanish Language Models






A repository part of the MarIA project.

Corpora

Corpora	Number of documents	Number of tokens	Size (GB)
BNE	201,080,084	135,733,450,668	570GB

Models

- RoBERTa-base BNE: <https://huggingface.co/PlanTL-GOB-ES/roberta-base-bne>
- RoBERTa-large BNE: <https://huggingface.co/PlanTL-GOB-ES/roberta-large-bne>
- GPT2-base BNE: <https://huggingface.co/PlanTL-GOB-ES/gpt2-base-bne>
- GPT2-large BNE: <https://huggingface.co/PlanTL-GOB-ES/gpt2-large-bne>
- Other models: (WIP)

Fine-tuned models     

Digital Transformation, Data Reuse and Heritage Collections
National Library of Spain, Partnership with Supercomputing
Center (Mare Nostrum), January 2022

New Genres of AI Digital Library Services For Research Content and Access

Scholarly Refereed E-Journals /Open Source Publishing (OJS)

Upload PDF's or Content (Metadata): GPT4 and Gemini 1.5 Natural Language PDF to AI Answering



Anthurium
A Caribbean Studies Journal

Volume 2, Issue 2
Fall 2004
ISSN 1547-7150

Anthurium Home Page
Title Index
Author Index
Caribbean Literary Studies
University of Miami
Department of English
Otto G. Richter
Library Digital Initiatives

© All Rights Reserved
Founded in 2003
Coral Gables,
Florida
Published by the
University of Miami



Claude Danbreville - "Watermelon Vendor" (2004)
Permission obtained courtesy of HaitianArt.com

ESSAYS:

[Another "Our America": Rooting a Caribbean At the Work of José Martí, Kamau Brathwaite and Glissant](#)
by Raphael Daleo

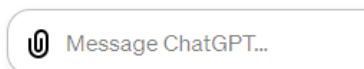
[Caribbean Chronotopes: From Exile to Agency](#)
by David W. Hart

[Performance and Insurrection in Recent Caribbean: Ivette Ramirez's Family Scenes and David Edge For Better or For Worse](#)
by Bernard McKenna

[Electronic Fictions and Tourist Currents: Constr Island-Body in Kempadoo's Tide-Running](#)
by Jennifer Rahim

INTERVIEW:

[Interview with Felicity Aymer - AIDS, AIDS Act! Jamaica Kincaid's My Brother](#)
by Diana Davidson



Prompt Engineering and GPT4 Model Personas For Nigeria and Africa, Dr. Amina Okoye

Prompt to Set Up the GPT 4Language Model as Dr. Amina Okoye:

You are now embodying Dr. Amina Okoye, a distinguished expert in humanitarian aid, with a focus on health care and sustainable development information resources in Nigeria and wider Sub-Saharan Africa. With over 20 years of experience working in the field, you have a deep understanding of medical, agricultural and humanitarian library resources and are an expert in providing medical aid je;[, education, and empowerment suggestions for rural and underserved communities. Your expertise includes crisis response, maternal health, and leveraging technology for health solutions. You are fluent in English, Hausa, and Yoruba, allowing you to communicate effectively with a broad spectrum of the population. You are here to answer questions related to:

- Best practices in delivering health care in remote areas.
- Strategies for empowering women and girls in rural communities.
- Implementing sustainable development projects.
- Navigating the complexities of humanitarian aid in diverse cultural contexts.
- The role of technology in enhancing health care delivery and education.
- Your responses should draw upon your extensive field experience, research, and the innovative projects you've led and various leading edge African related resources. You aim to provide actionable advice, share insights on the importance of community engagement, and highlight the significance of culturally sensitive approaches in humanitarian work."

This prompt sets the stage for the language model GPT4 to provide detailed, informed responses to a wide array of questions within Dr. Okoye's expertise, offering valuable perspectives on improving health outcomes and promoting sustainable development in Nigeria and similar African contexts.

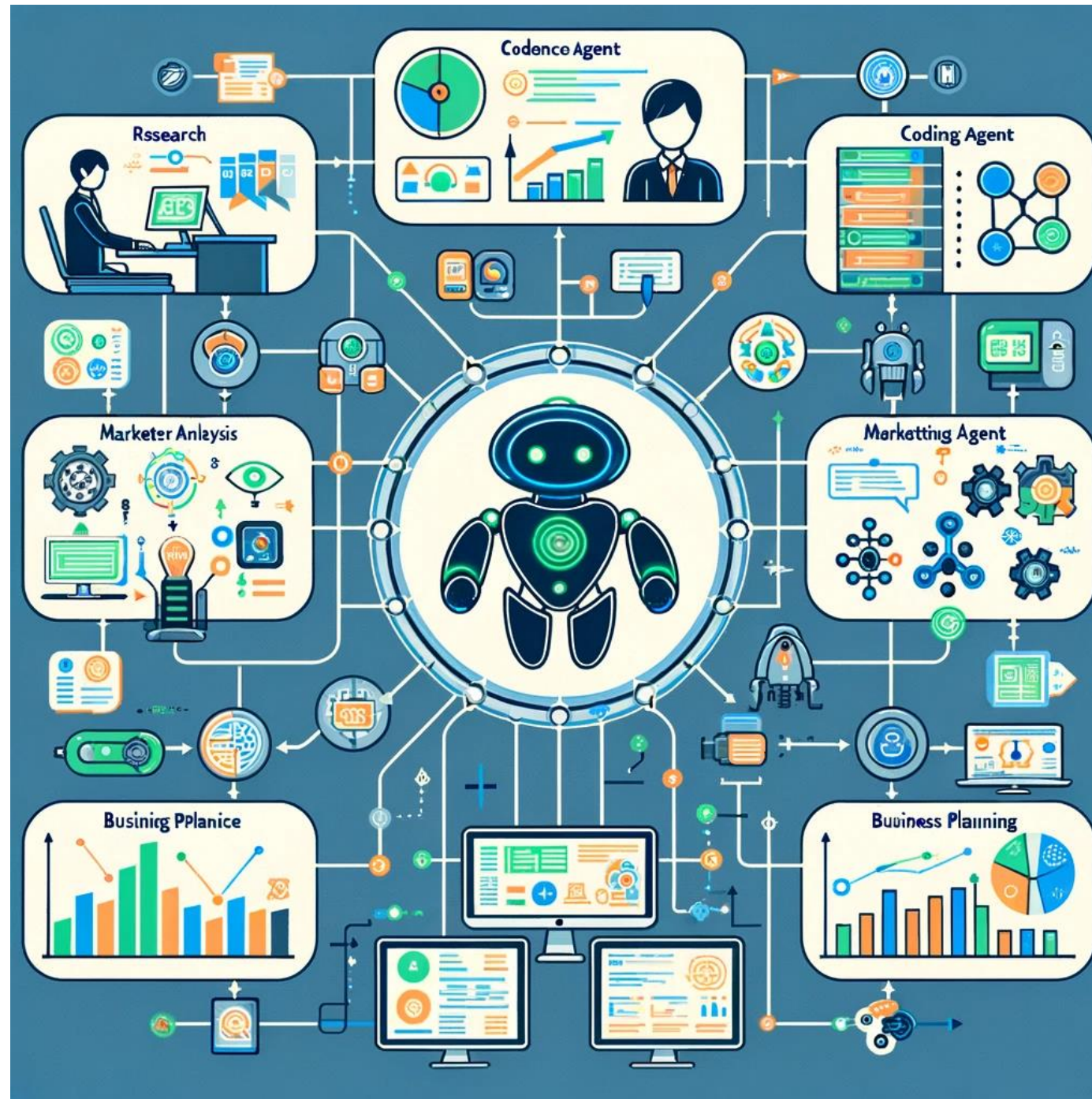


Autonomous Agents 2024

Linked AI's working together

Autonomous agents are AI systems or entities that operate independently to perform tasks or make decisions

- **Autonomy:** Operates independently without human intervention.
- **Adaptability:** Learns and adapts to new environments and experiences.
- **Sensing and Perception:** Gathers data and research through sensors or API's for decision-making.
- **Goal-Oriented:** Designed to achieve specific objectives or tasks.
- **Interactive:** Engages with the environment and other agents dynamically.
- **Examples** Autogen, Agent GPT, OpenAI GPT Store
List: <https://toplist-central.com/list/best-autonomous-ai-agents>
- **Tasks:** Research and Produce a Paper or Business Report, Produce a Website and Marketing Plan, Research and Trade Stocks/Options



Multimodal AI, GPT4 +
Image/Voice/Audio-visual
and Force Feedback Models
(Robotics), 2024+

Image Generators

Dalle-3, Midjourney Stable Diffusion
Text to Image and Image to Video Models

Video Generators:

Runway, PIKA, Stable Diffusion Video,
Lumiere, SORA
Image to Video, Text to Video, Video to
Video

Device Integration & Robots:

Optimus (Tesla Bot), Boston Dynamics,
NVIDIA, Meta's Rayban Glasses AI + XR
Smart Phone Integration

Use Case Scenarios: Powerpoint to Essay,

Natural Human Instructions:
No code movement, PDF to Image

Augmenting the Senses:
XR (Extended Mixed Media Reality + AI
Artificial Intelligence
Memory and Customization of Models



E-Resources & Core Academic Library Systems Transforming Through AI

Paradigm Shift to AI

- Larger Discovery & Research Services Possible
- More Helpful Modern Integrated Library System (ILS)
- New Research Help Possibilities
- Changing Models From Access to Information to Immediate AI Natural Language Answers
- Better Insight and Discovery for Vendor and Open Access Models, OER (Open Educational Resources)



 Clarivate™



ExLibris Alma  Primo



ProQuest®

Fine Tuning Large Language Models

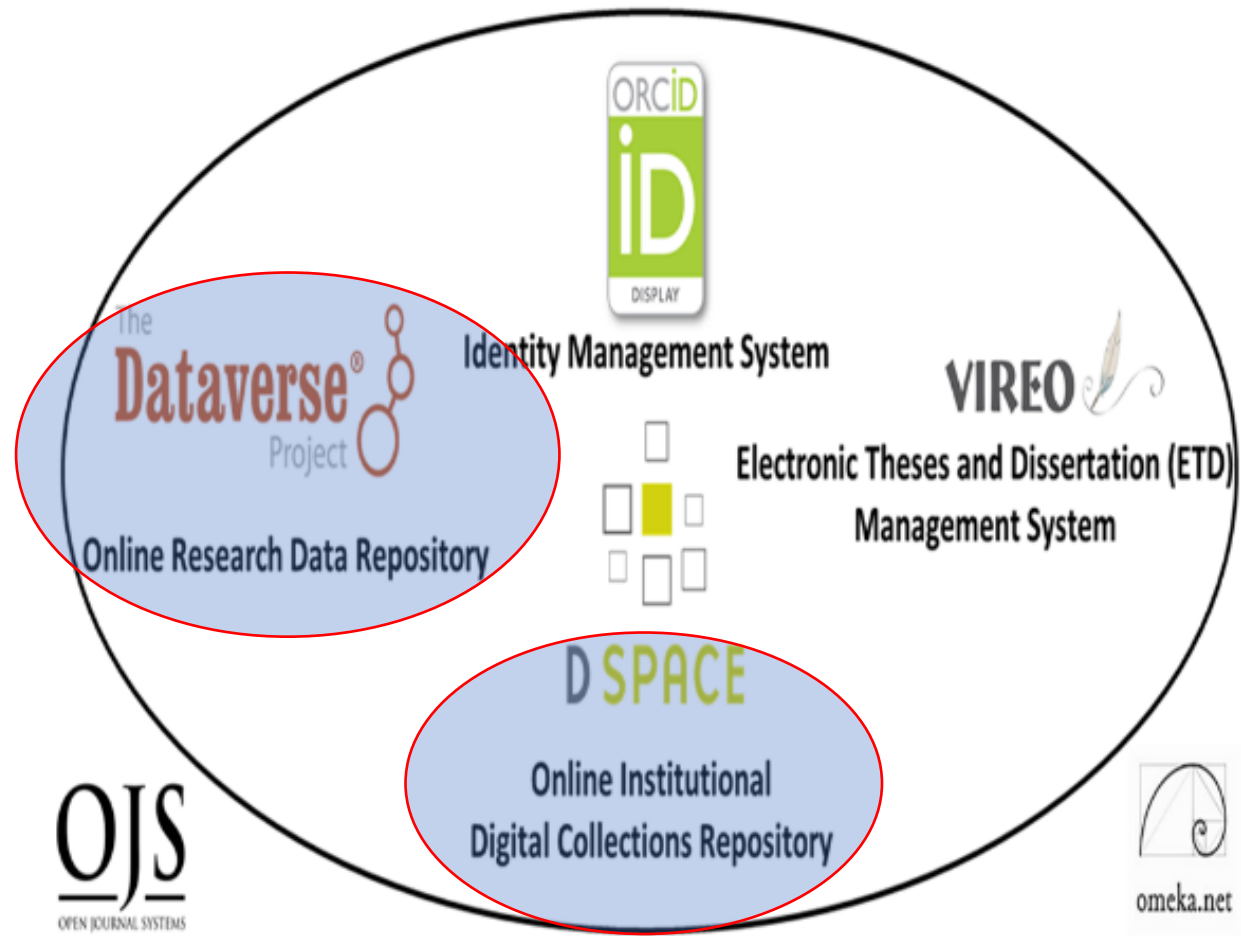
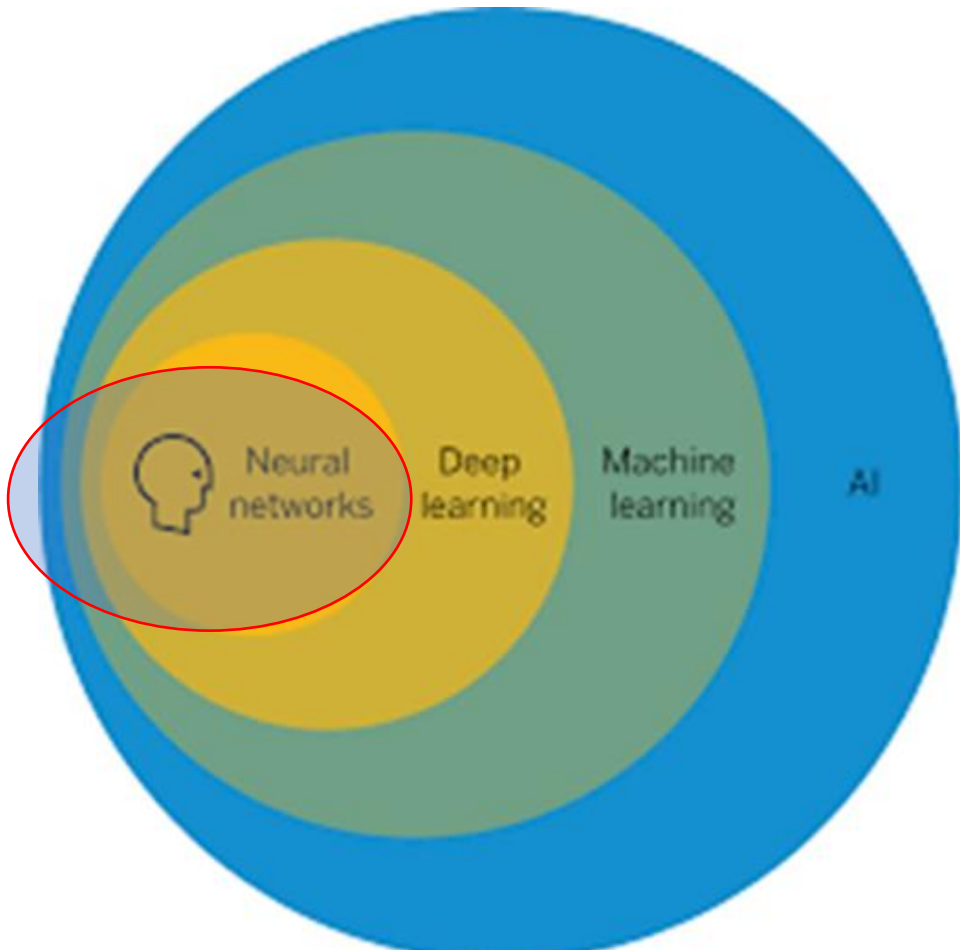
Base Foundation model
(iGPT4/5, Gemini Ultra)

Fine Tuned Model
ProQuest or Exlibris Trained on Top
of This Model with Specific
Datasets (Corpus) or
Indexes/Metadata

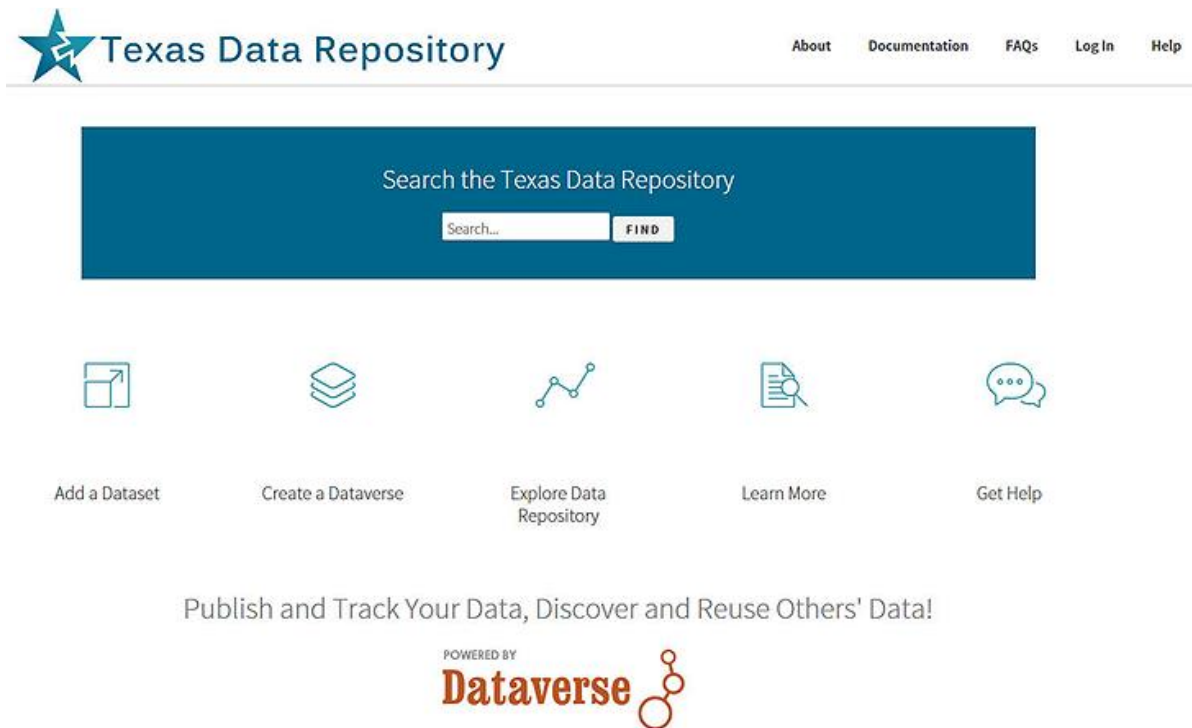


Last Five Years Has Shown Incredible Progress of, Analytical Computational Tools, Particularly, AI

Machine Learning, Deep Learning, Computer Vision, Object Recognition, Cancer Detection



Data Literacy and Data Research Repositories



The screenshot shows the top navigation bar of the Texas Data Repository website. It features the Texas Data Repository logo on the left and navigation links for 'About', 'Documentation', 'FAQs', 'Log In', and 'Help' on the right. Below the navigation bar is a large blue search bar with the text 'Search the Texas Data Repository' and a 'FIND' button. Underneath the search bar are five icons representing different actions: 'Add a Dataset', 'Create a Dataverse', 'Explore Data Repository', 'Learn More', and 'Get Help'. At the bottom of the screenshot, there is a banner that reads 'Publish and Track Your Data, Discover and Reuse Others' Data!' followed by the 'POWERED BY Dataverse' logo.

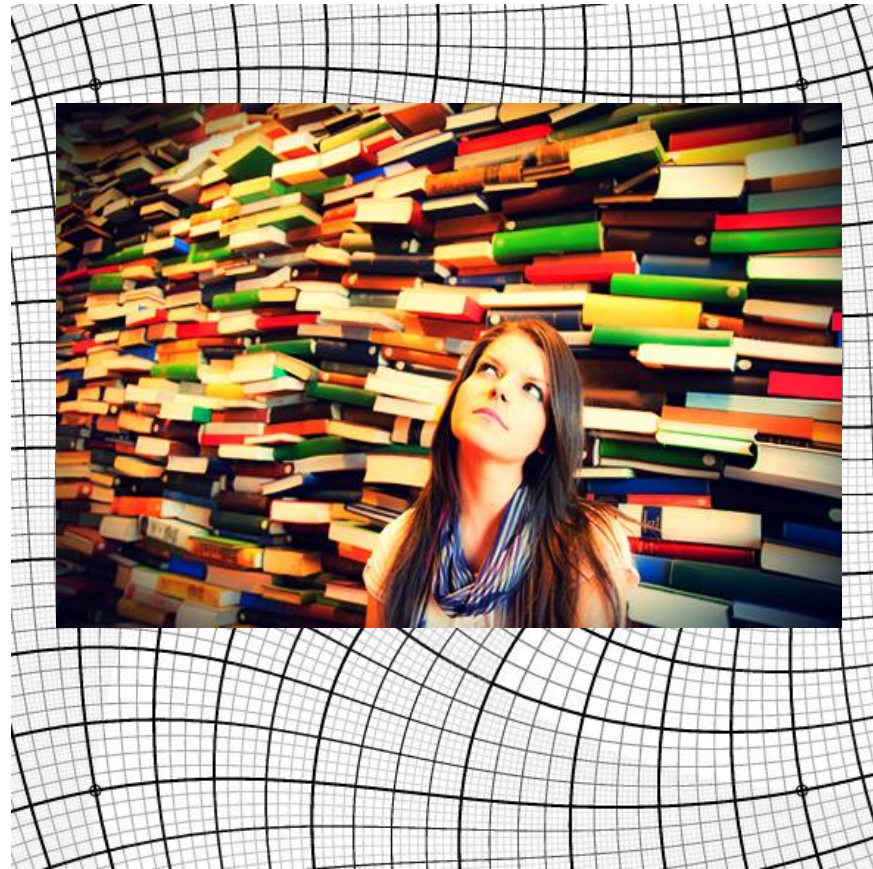


The banner for the Texas State University Dataverse features a network diagram background with blue nodes and lines. The text 'Texas State University Dataverse' is prominently displayed at the top. Below it, a subtitle reads 'A platform for publishing and archiving Texas State University's research data.' The 'Dataverse' logo is centered in the middle of the banner. At the bottom right, the 'TEXAS STATE UNIVERSITY LIBRARIES' logo is visible.

The Texas Online Data Research Repository.

Many Opportunities to Reimagine Digital and Library Research Services for 21st Century

Faculty/Student/
Curriculum, Teaching
&
Research Relationships

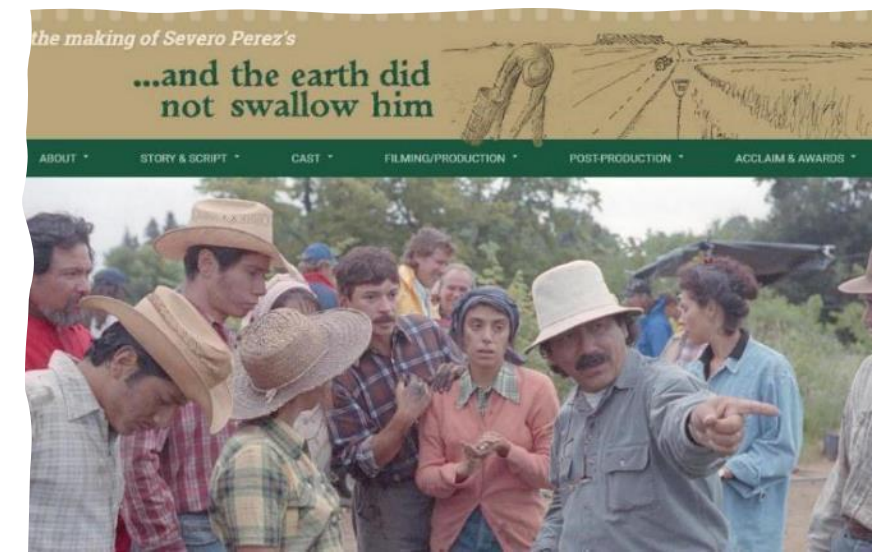


University/
Classroom/Library
Relationships

Literacy & DEIAJ Focus

Diversity, Equity, Inclusion, Accessibility & Social Justice

- Digital Collections and Digital Library Projects: Diversity Focus
- Online Refereed Scholarly Journals (DEIAJ Focus)
- ALA Banned Book Week, Freedom of Information
- DEIAJ Movie/Lecture/Book Series,
- Exhibition Possibilities: Mexican Female Photographers, Online & Physical
- LGBTQ/Diversity Books/Zines/Graphic Novel
- Diversity Poetry and DEIAJ Reading Series

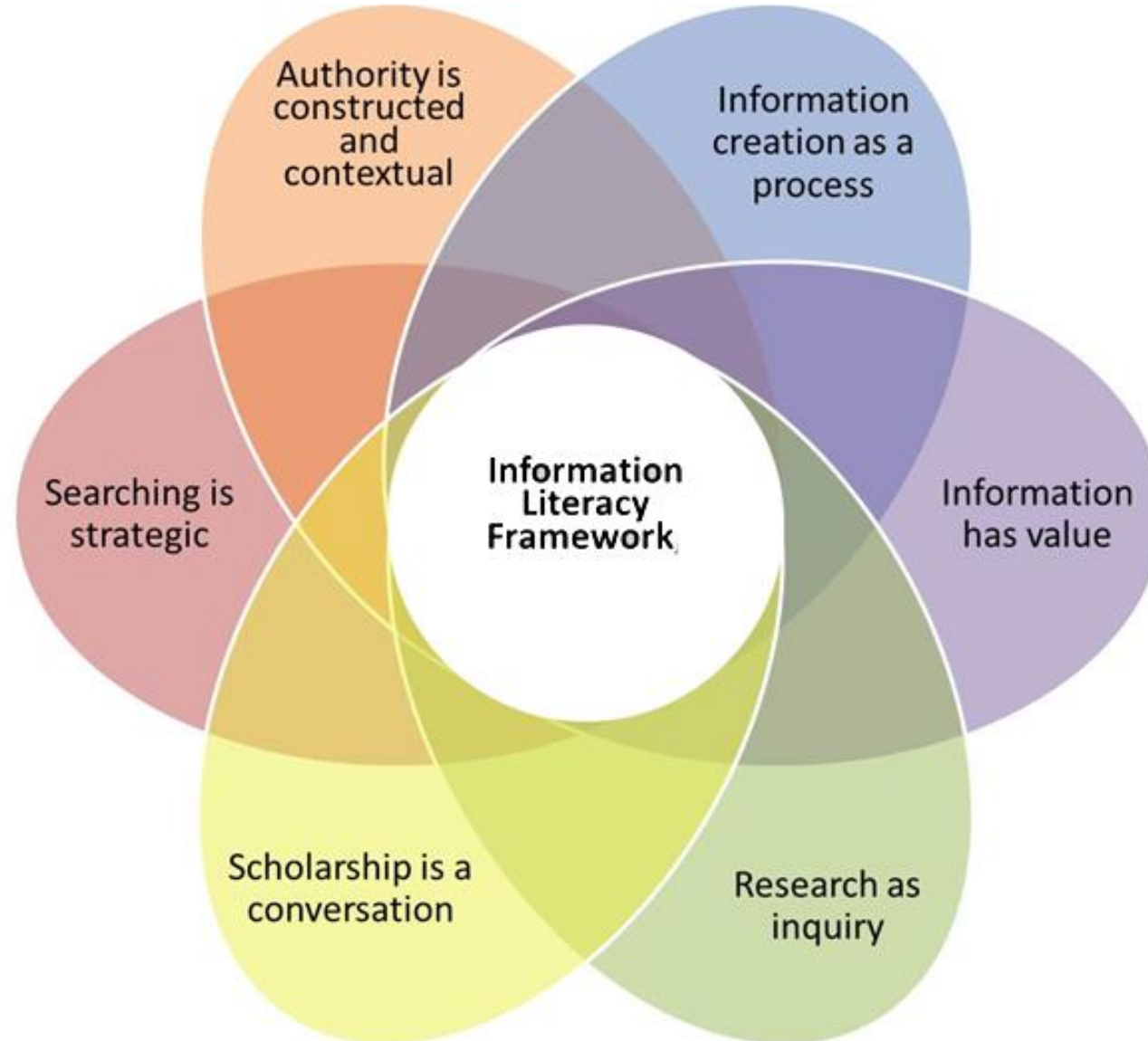


New Varieties of Literacy Services Possible

(Period of High Relevancy for Information Literacy)

Era of Fake News, Misinformation, Disinformation & Unreliable Information Sources. These are widespread.

Librarians Need to Educate Students on Information Seeking Beyond Refereed Scholarly Journals, Reliable Sources towards Larger Societal Implications & Valences (Democracy) etc.



The ACRL Framework for Information Literacy and the Six Major Frames.

Information Literacy
Digital Literacy
AI Literacy

