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# Samvera Tech 101

Samvera Connect 2020

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**DATA  
STORES**

**USER  
INTERFACES**



**SAMVERA**

**BACKGROUND  
JOBS**

**SAMVERA  
APPLICATIONS**



01

**SAMVERA**

> *Samvera is the name of the community that maintains a set of Ruby gems and engines (libraries of code)*

- Originally called “Hydra”
- Also often refers to several application level Rails gems and engines (libraries of code)

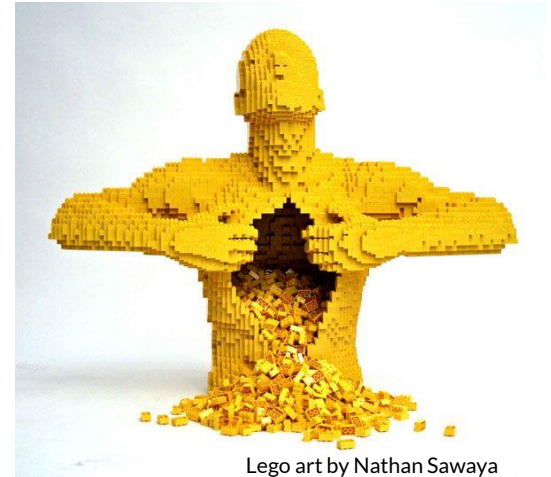
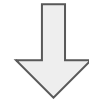




> *“The Samvera Stack” is a collection of application level Rails gems and engines (libraries of code) as a framework to build digital repository solutions*

- **Dependencies:**

- Ruby on Rails
- Solr
- Data Store (relational database management systems, eg: Fedora)
- Blacklight



Lego art by Nathan Sawaya

> *Rails an open-source server-side web application framework built with the Ruby programming language*

- Full Stack framework
- **What is a framework?**
  - A collection of code, tools & utilities that adheres to a specific structure when writing software






01

# DATA STORES

Think: library



> *Solr is a standalone enterprise search server*



843.7	
AUTHOR	Dumas, Alexandre
TITLE	The Count of Monte Cristo
PUBLISHED	Journal des Débats, 1844-1845
FIRST LINE	"On the 24th of February, 1815, the look-out at Notre-Dame de la Garde signalled the three-masted, the Pharaon from Smyrna, Trieste, and Naples."
LAST LINE	"'Darling,' replied Valentine, 'has not the count just told us that all human wisdom is summed up in two words: 'Wait and hope (Fac et spera)!'"

- Index based data storage and search results
- Allows for fast searching and rich discovery of content
- Communicates over HTTP and XML to an API



*> Fedora is a repository platform for persisting and managing digital objects*

- Data store - repository of metadata and assets
- Communicates over HTTP and XML

> *Valkyrie is a gem for enabling multiple backends for the storage of files and metadata in Samvera*



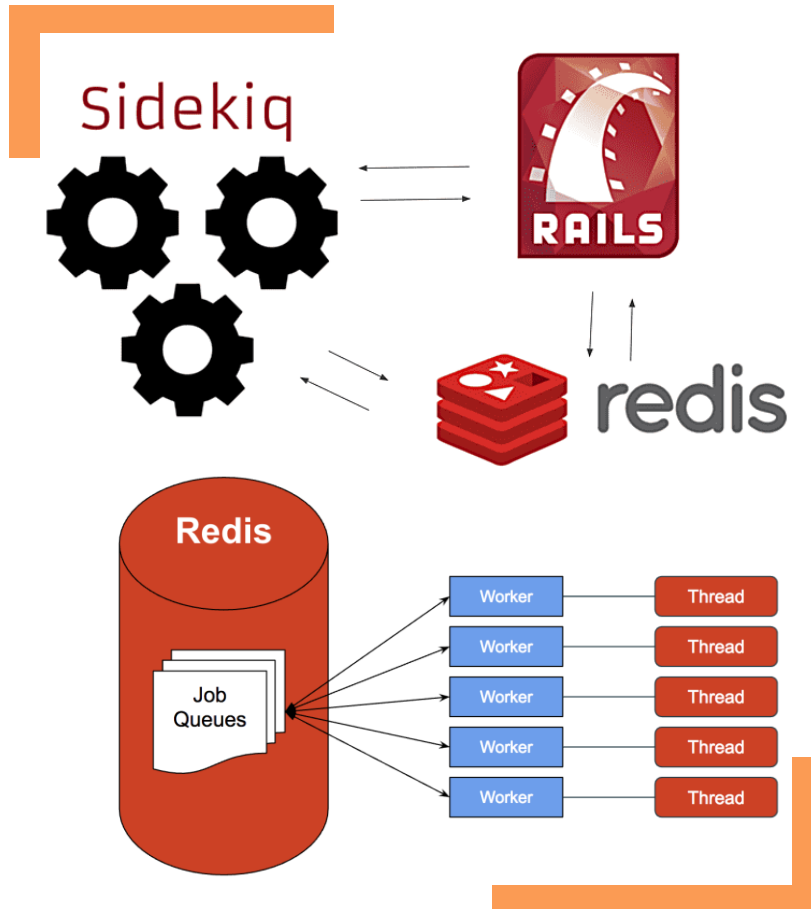
- A data mapper library
- As of February 2019, community effort to use Valkyrie within Hyrax
- Offers more flexibility



02

## BACKGROUND JOBS

A process that runs outside of your  
application request cycle



> A background job is processed outside of the usual request/response workflow that is part of any modern web framework

- Asynchronous
- Examples include:
  - Sidekiq
  - Delayed Job





03

## USER INTERFACES

How a user interacts with your app

> *Blacklight provides an interface for Solr*

- Provides full text and/or metadata search capabilities
- Highly customizable

The screenshot displays the Blacklight search interface. At the top, the Blacklight logo is on the left, and 'Bookmarks 0', 'History', 'en', and 'Login' are on the right. Below the header is a search bar with 'All fields' selected, a search input field, and a 'Search' button. To the left of the search results is a 'Limit your search' sidebar with filters for Format, Publication Year, Topic, and Language. The Language filter is expanded, showing a list of languages and their counts. The search results are displayed in a list format, showing the first three results: '1. Maine /', '2. Nebraska /', and '3. North Dakota /'. Each result includes a 'Bookmark' checkbox and a list of metadata fields: Title, Author, Format, and Language.

**Limit your search**

Format >

Publication Year >

Topic >

Language v

- English 5,893
- Spanish 478
- French 360
- German 326
- Arabic 317
- Italian 311
- Chinese 288
- Portuguese 241
- Russian 210
- Indonesian 183
- more »

« Previous | 1 - 10 of 9,873 | Next »

Sort by relevance v 10 per page v

1. [Maine /](#) ☐ Bookmark

Title: Maine /

Author: Dornfeld, Margaret.

Format: Book

Language: English

2. [Nebraska /](#) ☐ Bookmark

Title: Nebraska /

Author: Bjorklund, Ruth.

Format: Book

Language: English

3. [North Dakota /](#) ☐ Bookmark

Title: North Dakota /

Author: McDaniel, Melissa,

Format: Book

Language: English

## BLACKLIGHT

> *Blacklight provides an interface for Solr*

- Provides full text and/or metadata search capabilities
- Highly customizable

The screenshot displays the Stanford Libraries SearchWorks catalog. At the top, the Stanford Libraries logo is on the left, and 'Login My' links are on the right. Below this is a dark red header with 'SearchWorks catalog' and a search bar containing 'All fields' and 'books & media'. A navigation bar below the header includes 'Help', 'COVID-19 Libraries update', 'Advanced search', and 'Course reserves'. The main content area shows a search result for 'AI and Machine Learning for Coders [electronic resource]'. It includes a book cover image, a table of metadata (Responsibility, Digital, Edition, Publication, Physical description), and a 'Description' section with 'Creators/Contributors' and 'Contents/Summary'. The 'Online' section shows 'Available online' with a link to 'Safari Books Online'.

Stanford LIBRARIES

SearchWorks catalog

All fields books & media

Help COVID-19 Libraries update Advanced search Course reserves

Back to results Previous 9 of 9,914,914 Next Cite Send

AI and Machine Learning for Coders [electronic resource]

**O'REILLY**  
AI and Machine Learning for Coders  
A Pragmatic Guide to Artificial Intelligence

Responsibility Moroney, Laurence.  
Digital text file.  
Edition 1st edition.  
Publication O'Reilly Media, Inc., 2021.  
Physical description 1 online resource (41 pages)

**Online**

Available online

Safari Books Online

**Description**

Creators/Contributors

Author/Creator Moroney, Laurence, author.  
Contributor Safari, an O'Reilly Media Company.

Contents/Summary

## Say Their Names

Green Library Exhibit supporting the Black Lives Matter movement

HOME EXHIBIT ▾ ABOUT

Search...

Limit your search

- Date >
- Date Range >
- Exhibit Tags >

The Stanford Libraries stand in solidarity with the Black, Indigenous, and People of Color (BIPOC) communities on campus and across the country. University Librarian **Michael A. Keller's statement**, "**In Solidarity and Support**," and the Stanford Libraries' **values statement** reaffirm our organizational commitment to being an inclusive and welcoming academic setting for all. While these statements and commitments to racial justice, equity and diversity are important, we felt it also necessary that the Libraries engage in direct ways as it relates to recent events.

One of the ways we intend to put our words into action is a visually cohesive, thoughtfully curated exhibition that is installed in Green Library as well as preserved online. As Librarians, we are charged with the awesome responsibility of being keepers of the light and protectors of our shared memories. This is what fuels our work, and what has energized a dedicated group of library staff to assemble, roll up our sleeves and in mere weeks turn a concept into reality.

**Say Their Names – No More Names** is an exhibit that highlights victims who were chosen because they represent a variety of Black Americans whose freedoms were denied or whose lives were callously taken by vile attacks that have terrorized the Black community for centuries. The victims are young, old, transgender



## > Spotlight highlights digital collections

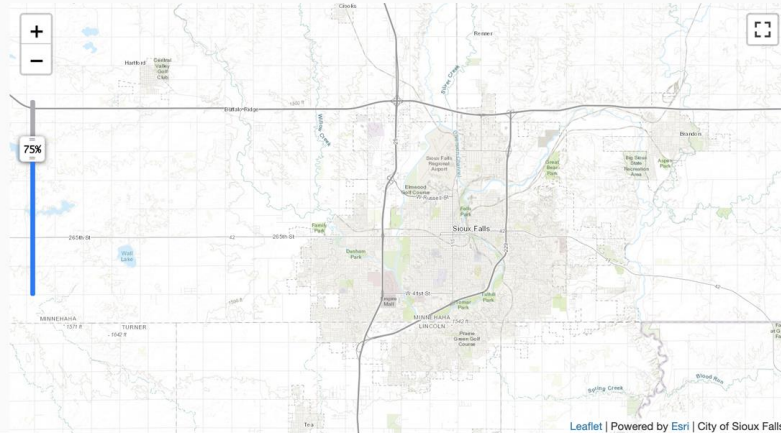
- Enables non developers to create their own websites
- Self service

> *GeoBlacklight is an interface for geospatial data*

- Extends the Blacklight app
- Requires Solr and a relational database

## 10 ft Contour Interval: Sioux Falls, Iowa

ArcGIS Dynamic Map Layer



Attribute

Value

Click on map to inspect values

Creator: City of Sioux Falls GIS

Description: Tile layer containing authoritative tiled elevation contours from 2017 for Sioux Falls, South Dakota.

Visit Source

Web services

Open in ArcGIS

Cite

Downloads

Original Shapefile



> *Arclight is a Rails engine supporting the discovery of archival information*

- Multiple collections per repository

The screenshot displays the Arclight web application interface. At the top, a dark header bar contains the 'Arclight' logo on the left and links for 'Bookmarks', 'History', and 'Login' on the right. Below this, a light-colored navigation bar features the title 'Archival Collections at Institution' and two links: 'Repositories' and 'Collections'. A search bar is positioned below the navigation bar, containing a search input field with the placeholder 'this collection', a dropdown menu for 'All Fields', and a 'Search' button. Below the search bar, there are two buttons: 'Start Over' and 'Back to Search'. A pagination link shows '« Previous | 4 of 126,401 | Next »'. The main content area displays the breadcrumb 'Home > Indiana University, Archives of African American Music and Culture (AAAMC)' followed by the collection title 'Reclaiming the Right to Rock : Black Experiences in Rock Music Collection, 2008-2010'. To the right of the title, a box shows 'Collection ID: SC 151' and a 'Bookmark' checkbox. Below the title, there are three tabs: 'Overview' (selected), 'Contents', and 'Access'. The 'Overview' tab shows a 'SUMMARY' section with the following details: 'CREATOR: Indiana University, Archives of African American Music and Culture (AAAMC)', 'ABSTRACT: This collection consists of documentation and one-on-one interviews from the AAAMC's two-day conference on Black rock hosted on the Indiana University-Bloomington campus on November 13-14, 2009. The conference and related activities were open to local and regional musicians, scholars, students, and brought together Black rock musicians from different generations and regions with music critics and scholars to discuss the socio-political history, musical developments, and the future of Black rock.', and 'EXTENT: 46 video files (HD QuickTime) (21 hours, 45 minutes)'. To the right of the summary, there are links for 'Summary', 'Background', and 'Indexed Terms'.



04

## SAMVERA APPLICATIONS

Rails applications that follow Samvera conventions

> *Hyrax is a full stack application for repositories*

- Descended from Sufia and CurationConcerns
- Admin friendly
- Maintained by the community

The screenshot shows the ATLA Digital Library search results for the term 'bible'. The page features a blue header with the ATLA logo and navigation links (Home, Explore, About, Participate). Below the header, the search results are displayed with a sidebar for filtering and a main content area showing two items: 'Bible gems' and 'Bible emblems'.

**Search Results**

Limit your search

Type

Text	3,098
Sound	2,763
Image	889
Collection	61
Moving Image	15
Physical Object	7

Subject

Date

Between year:

and year:

Update


Unknown 3,280

Filtering by: bible X Start Over

« Previous | 1 - 10 of 6,836 | Next »

Sort by relevance 10 per page

**Bible gems**




Creator: Croll, P. C. (Philip Columbus), 1852-1949

Date: 1908

Contributing Institution: Princeton Theological Seminary Library

[View Full Item at Princeton Theological Seminary Library](#)

**Bible emblems**



Creator: Seelye, Edward Eli, 1819-1864

Date: 1866

Contributing Institution: Princeton Theological Seminary Library

[View Full Item at Princeton Theological Seminary Library](#)

> *Hyrax is a full stack application for repositories*

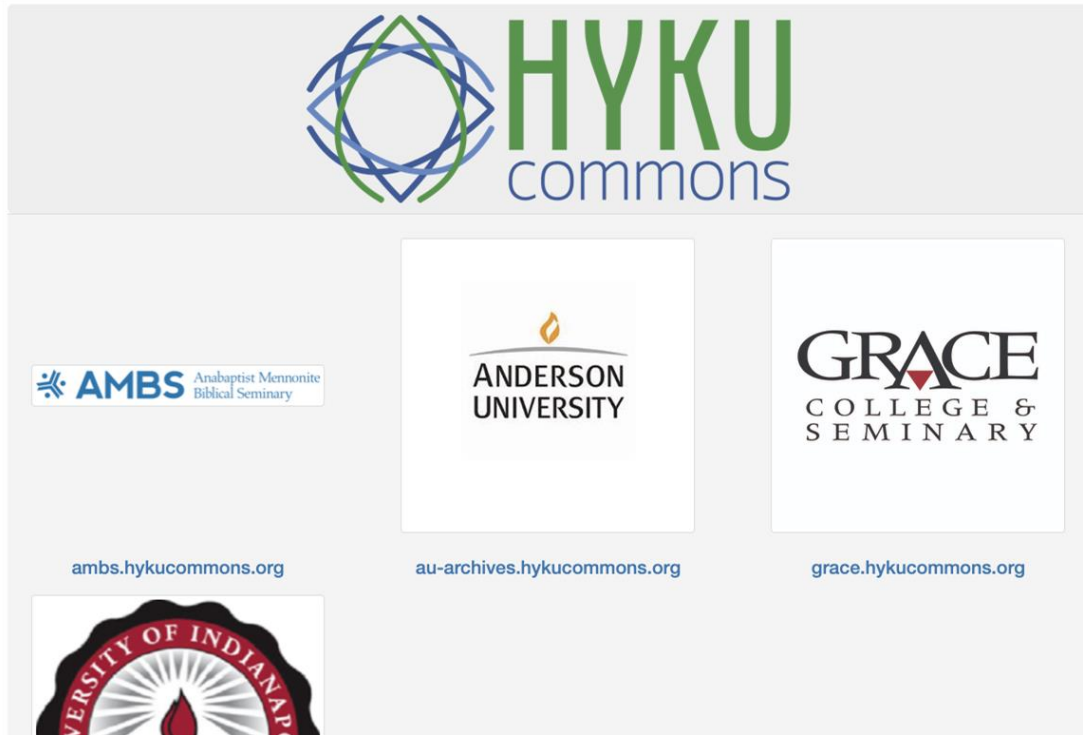
- Descended from Sufia and CurationConcerns
- Admin friendly
- Maintained by the community

The screenshot displays the Hyrax 'Works' interface. On the left is a dark sidebar with navigation links: ACTIVITY (Your activity, Reports), REPOSITORY CONTENTS (Collections, Works), Importers, Exporters, TASKS (Review Submissions, Manage Embargoes, Manage Leases), and CONFIGURATION (Settings, Workflow Roles). The main content area is titled 'Works' and shows '109959 works you own in the repository'. It includes filter buttons for Visibility, Status, Admin Set, and Collection. A search bar is labeled 'Search Atla Digital Library'. Below the filters, a table lists works with columns for selection, title, and date added. The first five items are related to Alabama Religious Life.

<input type="checkbox"/>	Select	Title	Date Added
<input type="checkbox"/>		Gardendale Baptist Church Is part of: Alabama Religious Life	2020-10-22
<input type="checkbox"/>		Ruhama Baptist Church in Birmingham, Alabama, circa 1920 Is part of: Alabama Religious Life	2020-10-20
<input type="checkbox"/>		"Looking west from side of Mt. Pelham." Is part of: Alabama Religious Life	2020-10-20
<input type="checkbox"/>		"Natural Bridge from above" Is part of: Alabama Religious Life	2020-10-20
<input type="checkbox"/>		"On the way to our host's home" Is part of: Alabama Religious Life	2020-10-20

> *Hyku is an out-of-the-box repository application with multi-tenant capability*

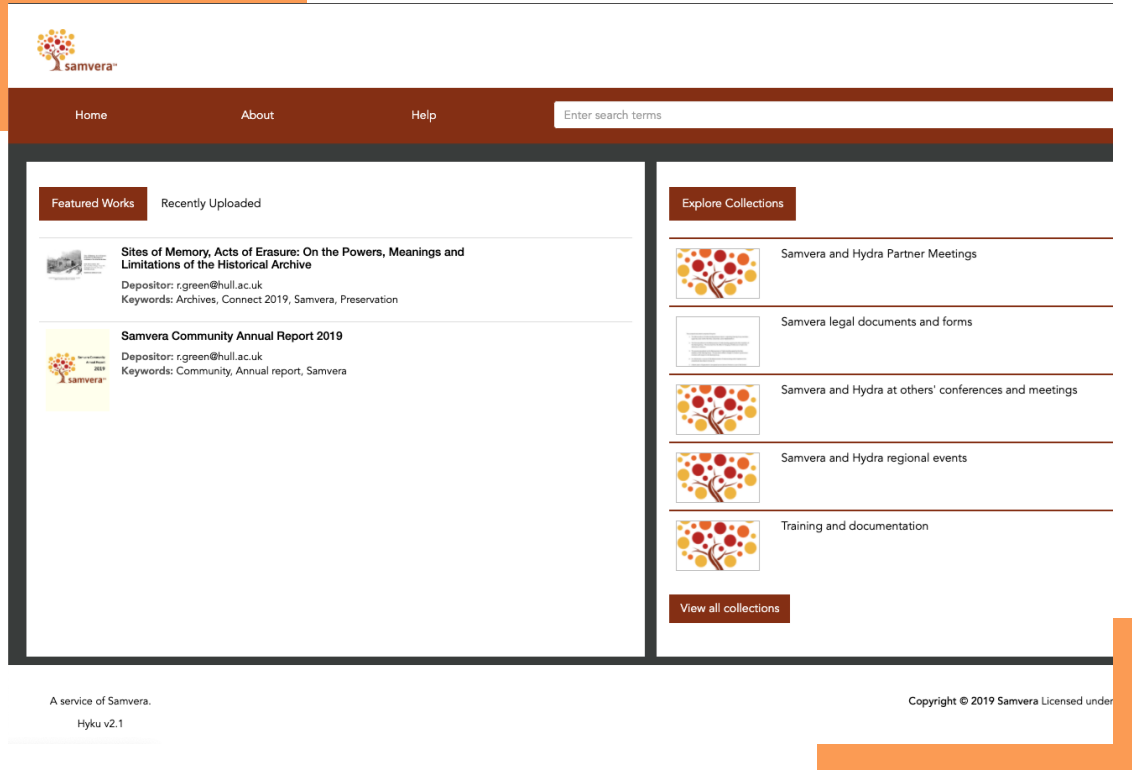
- Built on Hyrax
- Easier deployment and maintenance
- Offered as a service





> *Hyku is an out-of-the-box repository application with multi-tenant capability*

- Built on Hyrax
- Easier deployment and maintenance
- Offered as a service



> *Avalon is a platform for digital audio and video*

- Built on Hyrax
- Customizable

Northwestern

SIGN IN

LIBRARIES | REPOSITORY AUDIO + VIDEO

Search audio or video

Browse About Help

2014 Weinberg College Convocation

**Date**  
2014-06-21

**Main contributor**  
Weinberg College of Arts and Sciences (WCAS)  
Northwestern University

**Summary**  
Weinberg College Senior Convocation 2014 introductory remarks from Sarah C. Manglesdorf, Dean, Judd A. and Marjorie Weinberg College of Arts and Sciences. Address by Daniel Pink '86, noted author and cultural critic. Introduction by Sarah Manglesdorf, Dean of the Judd A. and Marjorie Weinberg College of Arts and Sciences.

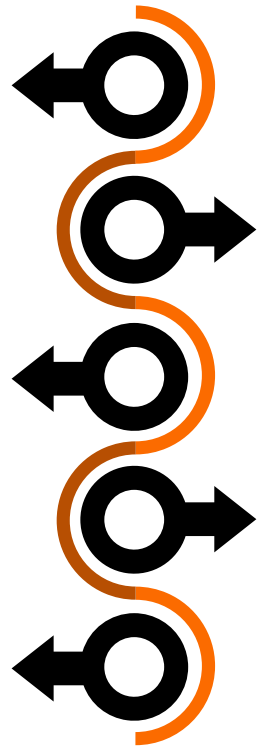
**Contributor**  
Weinberg College of Arts and Sciences (WCAS)  
Northwestern University

**Subjects**  
Commencement ceremonies; Graduation (School); Northwestern University (Evanston, ILL)

Share



SAMVERA



DATA  
STORES

**Fedora**<sup>TM</sup>

Solr



Sidekiq

BACKGROUND  
JOBS

USER  
INTERFACES



blacklight



blacklight



avalon  
MEDIA SYSTEM



hyku



Hyrax

SAMVERA  
APPLICATIONS

ju[repositories



hykuUP





# THANKS!

Are there any questions?

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