

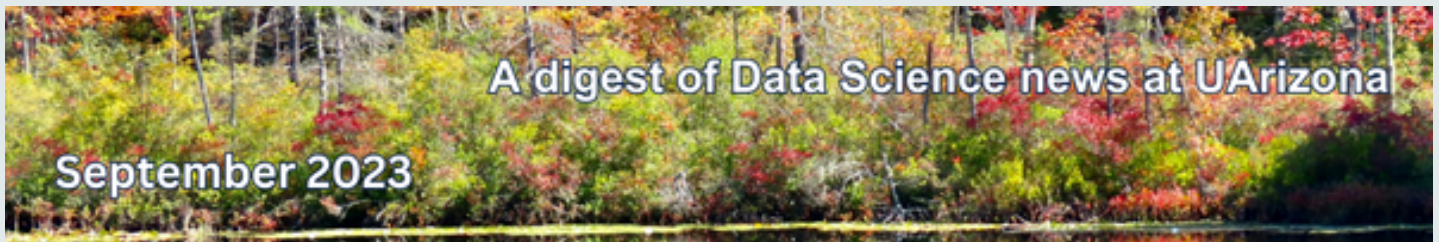
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THE UNIVERSITY OF ARIZONA



RESEARCH, INNOVATION & IMPACT
Data Science Institute

The Data Drip



DATA SCIENCE INSTITUTE (DSI)

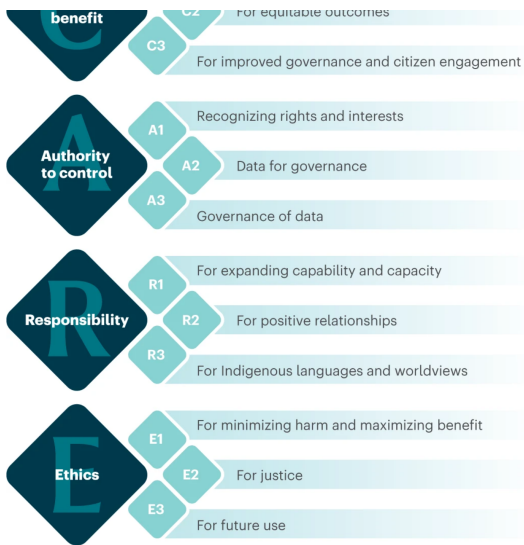


Using data to make better medical decisions

Ajay Perumbeti, MD recently completed the DSI [Data Science Fellows](#) program to learn how to better use data science and analytics in health care. "Long before the COVID-19 pandemic, when billions of vaccine doses were administered globally, the health care industry was generating enormous amounts of data. That volume of data is only increasing,..."

[Read the full UAHS article](#)

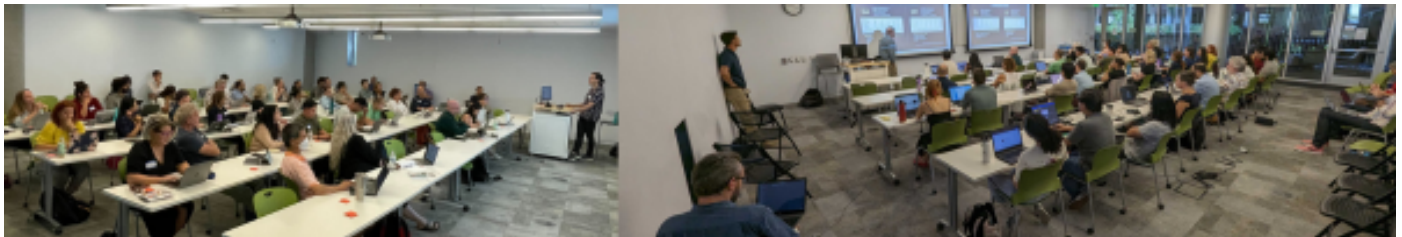
Applying the 'CARE Principles for Indigenous Data Governance' to



ecology and biodiversity research

Lydia Jennings (former fellow with DSI [Data Science Fellows](#) program) and Talia Anderson (former fellow with DSI [Roots for Resilience](#) program) are co-authors of the new publication about guidance applying CARE Principles and research. "Indigenous Peoples are increasingly being sought out for research partnerships that incorporate Indigenous Knowledges into ecology research. In such research partnerships, it is essential that Indigenous data are cared for ethically and responsibly. Here we outline how the 'CARE Principles...'"

[Read the full Nature Journal article](#)



CyVerse and the Data Science Institute hosted a ChatGPT and GenAI prompt engineering all day workshop on Aug. 15, 2023. Expect more workshops soon.

CyVerse and DSI at AGIC 2023

AGIC identifies standards, development and implementation strategies to provide a framework in order to optimize the state of Arizona's investment in geographic data and technology. [Jeff Gillan](#) with CyVerse and [Carlos Lizarraga](#) with DSI presented at the recent [AGIC 2023 Education and Training Symposium](#) in Prescott, AZ. Their session titled,



Introduction to cloud-native and analysis ready geospatial data types, drew a large interested crowd. Attendees learned the concepts behind cloud-native geospatial formats and how to create, manipulate, and work with them and how cloud platforms such as Cyverse can be used to process, store, and share geospatial data.

DSI CALENDAR

Be sure to check regularly the [Data Science Institute's calendar](#) for information about useful data science workshops, trainings, and events offered by the Data Science Institute and other departments across campus.

Introducing! **Data Science Fellows
Roots For Resilience
Data Science Ambassadors**

Data Science Institute programs - Fall 2023 cohorts

Data Science Fellows

- Elizabeth Borden, COM-PHX, Clinical and Translational Sciences
- Arushi Chalke, Mel and Enid Zuckerman COPH, Epidemiology
- Lateefah A. Collingwood, College of Nursing, UA Faculty
- Andrew Klein, Pharmacy, Genetics GIDP
- Jennifer Kraszewski, Mel and Enid Zuckerman COPH, Epidemiology
- Stephanie Mallahan, Family and Community Medicine, Clinical Translational Sciences
- Simona Merlini, Center for Innovation in Brain Science, Biomedical Engineering

Roots for Resilience

- Sanja Dmitrovic, Optical Sciences
- Laura Werthmann Dozal, School of Information (iSchool)
- Julie Edwards, College of Science, Laboratory of Tree Ring Research
- Mohammad Farmani, Hydrology and Atmospheric Science
- Varinia Felix, Chemical & Environmental Engineering
- Ankit Pal, School of Information, Data Science Institute
- Pramesh Pudasaini, Civil and Architectural Engineering and Mechanics
- Tomasz Wlodarczyk, Environmental Science
- Yun-Ting Yeh, Economics
- Asif Zeshan, College of Architecture, Planning, and Landscape Architecture

Data Science Ambassadors

- Christian Ayala-Ortiz, College of Agriculture
- Jingyi Li, Japanese Literature
- Edwin Alvarado Men, Government and Public Policy
- Mario Morales, College of Public Health
- Lia Ossanna, School of Natural Resources and the Environment
- Salena Torres Ashton, School of Information

NEWS AND ACTIVITIES



Episode 376: Using computer algorithms in skin cancer research

"Artificial intelligence is joining the fight against skin cancer. University of Arizona cancer researcher Clara Curiel-Lewandrowski describes how an AI-powered database could improve how doctors can diagnose and

predict likely outcomes for skin cancer. Clara Curiel-Lewandrowski spoke with Leslie Tolbert, Ph. D Regent's professor emerita in Neuroscience at the University of Arizona."

[Listen to the NPR Arizona Science Podcast](#)



Research in a secure data analysis enclave with Soteria

Soteria changes the way researchers analyze and manage projects with protected data like PII and PHI.

Soteria is a secure data and analysis enclave where teams can collaboratively organize and analyze data while adhering to compliance requirements associated with protected data. Resources and state-of-the-art tools are available through Soteria. Explore which tools can help propel your research.

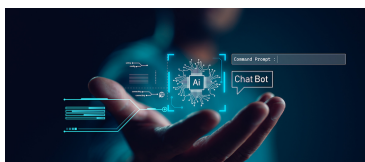
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Get your free UArizona CyVerse account thanks to the Technology and Research Initiative Fund (TRIF) and the UArizona CyVerse subscription with over 2,500 Academic Pro accounts.

[Get your UArizona CyVerse account](#)



Making AI work at UArizona

Learn how the the [Artificial Intelligence Access and](#)



[Integrity Working Group](#) is leading campus conversations around AI. Broaden your understanding even more by attending one of the several Fall [town hall series](#) of interactive conversations about AI.

[Read more in UA@Work](#)

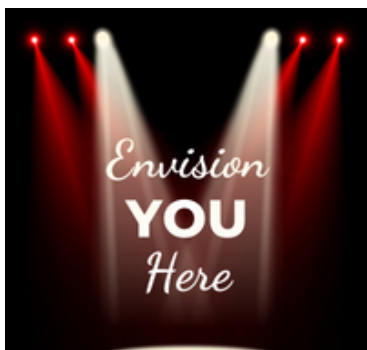


Generative AI tutorials at the UA Libraries

The UA Libraries offers great tutorials to learn about generative AI. Understand the basics of how the technology works. This will help you know what it's useful for and give you background for understanding the ethical debates. Explore guardrails, bias, and "hallucination." Generative AI is very different from discriminative AI. How to tell the difference and why that's important. Learn how to use ChatGPT and other generative AI tools effectively for your academic work.

1. [The technology behind ChatGPT](#)
2. [How does ChatGPT aim to prevent harmful use?](#)
3. [What is generative AI?](#)
4. [Using ChatGPT effectively](#)

[Learn more from UA Libraries](#)



Spotlight you and your research!

The Data Drip will highlight UArizona students, faculty, staff, research, data science projects, tools, and/or software. DSI wants to shine the light on you. Let us know what you want to share.

[Email us to contact you](#)

MUSINGS AND OPINIONS

DSI Spotlights Dr. Laura Condon

[Dr. Laura Condon](#) is an Associate Professor in the department of Hydrology and Atmospheric Sciences at the University of Arizona. Her curiosity about water and her parents' pumpkin farm led her on the path to the NSF funded convergence accelerator project, HydroGEN.

[Read the full article, "I HydroGEN and pushing the boundaries of hydrologic modeling"](#)

The views and opinions expressed in The Data Drip are those of the authors or content creators and do not necessarily reflect the official policy or position of the UArizona Data Science Institute or the University of Arizona.

Please feel free to share [The Data Drip](#) with your friends and colleagues! They can [subscribe](#) by completing a brief form. Let us know if you have data science news that you want us to share in The Data Drip or on the Data Science website.



There's a unicorn on campus. [Read](#) where you can spot the unicorn and its backstory.



Perhaps, you saw the Data Science Institute and CyVerse at the very well attended Graduate New Student Resource Fair at ENR2 on August 16, 2023.



The data science community is reading and sharing...

- [Create data apps using a drag-and-drop UI editor, while retaining the full power of Python in the backend.](#)
- [Dependence on Tech Caused 'Staggering' Education Inequality, U.N. Agency Says](#)
- [Loom's nightmare AWS outage and how it might have been prevented](#)
- [Artificial intelligence technology behind ChatGPT was built in Iowa — with a lot of water](#)

Read more about what the data science community is [reading and sharing in September](#).

CALENDAR

Data science workshops are available across campus. Take a look at the DSI [calendar](#) of events for more workshops. To see your data science events listed below and on the DSI Events page, complete the DSI [calendar](#) request form.

SEPT
29 [**CyVerse Webinar: Smart Health Platforms Part 1**](#)
Manage and analyze wearable data for your research using CyVerse.

SEPT
T/TH [**Fall 2023 Workshop Series: Reproducibility and Data Science in R**](#)
Virtual workshop series during fall semester 2023 to help UA researchers improve their reproducibility and data science skills!

OCT
3
17
31 [**Visualization, wrangling, and reproducibility in R**](#)
In October, the University Libraries will host a series of hands-on workshops introducing data science applications in R. October 3, learn how to make publication-quality graphics with the package "ggplot2". October 17, learn dynamic report writing for reproducible research. On October 31, there's a lesson on data wrangling and even more data visualization. More details regarding R Workshop events are listed on the Data Science Institute's [**Calendar of Events**](#). Contact [**Jeff Oliver**](#) with questions.

OCT
5 [**Fall 2023 Workshop Series: Reproducibility and Data Science in R**](#)
This workshop series will not cover statistical methods or modeling, mathematics, introductory R, or any other programming languages besides shell, git, and R. These topics can be taught separately by request.

OCT [**Cloud Native Geospatial**](#)

11

This technical session will focus on working with and creating analysis ready data that are cloud native. These include: COGs, COPC, Xarray, and GeoJSON data formats. We will also cover catalog indexing.

OCT
25

End-to-end data science workflows with Posit Team

Posit will walk through an end-to-end data science workflow and demo the core functionality of Posit Team while highlighting some of the latest features!

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SUBSCRIBE TO THE DATA DRIP

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Land Acknowledgment

We respectfully acknowledge the University of Arizona is on the land and territories of Indigenous peoples. Today, Arizona is home to 22 federally recognized tribes, with Tucson being home to the O'odham and the Yaqui. Committed to diversity and inclusion, the University strives to build sustainable relationships with sovereign Native Nations and Indigenous communities through education offerings, partnerships, and community service.