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The Stories We Share

Integrating the Humanities and Sciences

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Project-based Learning | 10 Common Learning Elements | Workforce Preparedness

ADAPT

All-campus **D**ata science and **AI** **P**roject-based **T**eaching and learning model

About the DSA: NC State University's Data Science and AI Academy

First NC State Academy
Launched July 2021

Mission: The DSA empowers people to use data ethically, effectively and accessibly. As a university-wide effort involving all 10 colleges, it encompasses multiple departments to address all three pillars of the university's land-grant mission: **education**, **research** and **service to the state of North Carolina**.

The Data Science and AI Academy designs and delivers instruction through the ADAPT model: All-campus Data Science and AI Project-based Teaching and learning model. Our courses are open to all learners and have included undergraduates, graduate students, faculty, staff, alumni and community members.

https://datascienceacademy.ncsu.edu/

Project-based Learning

We prepare students for the future of work. Our courses have homework and projects, but no quizzes, tests, or exams.

We continuously engage employers to offer the skills needed in a rapidly changing job market. Students from all majors can find ways to engage with data science and AI, put ideas into practice, retain knowledge, skills, and abilities (KSAs) beyond the course, and apply learning in new contexts.

Workforce Preparedness

We prioritize interdisciplinary learning experiences in which students have the agency to make genuine choices. In the workplace, data and AI practitioners will need to make decisions about which data to consider, which tools to use, and which questions to explore. We give students opportunities to become data and AI problem solvers by practicing decision-making in their homework and projects. Students from all majors across the university participate in our courses and apply data science and AI in their disciplines. They learn how to communicate about data and AI so that their work can be used and understood. We continuously adapt our courses to new technologies, new methods and models, and new employer needs.

Humanistic teaching in the data science classroom

Embracing

student-led discussions and discovery to support student autonomy with their learning

Recognizing

everyone is the expert of their lived experience and those stories are worth telling and hearing

Centering

students' independence and agency over their learning through self-selected or constructed assessments

Deconstructing

what counts as data science and challenging what data science looks like and can accomplish

Prioritizing

unconventional forms and practices of data science -- such as storytelling and data humanism

DSA 295: Storytelling with Data and AI

Course Description
While AI provides the opportunity for endless generated work, this course explores what is needed to generate a good story. Through artistic AI creation and play, students have the opportunity to engage in AI and data generation.

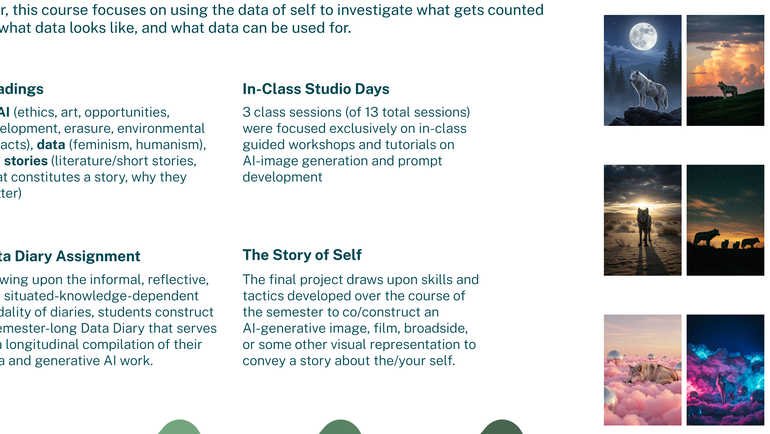
Moreover, this course focuses on using the data of self to investigate what gets counted as data, what data looks like, and what data can be used for.

Readings
on **AI** (ethics, art, opportunities, development, erasure, environmental impacts), **data** (feminism, humanism), and **stories** (literature/short stories, what constitutes a story, why they matter)

In-Class Studio Days
3 class sessions (of 13 total sessions) were focused exclusively on in-class guided workshops and tutorials on AI-image generation and prompt development

Data Diary Assignment
Drawing upon the informal, reflective, and situated-knowledge-dependent modality of diaries, students construct a semester-long Data Diary that serves as a longitudinal compilation of their data and generative AI work.

The Story of Self
The final project draws upon skills and tactics developed over the course of the semester to co/construct an AI-generative image, film, broadside, or some other visual representation to convey a story about the/your self.



Data
Weather: cold, snowy
Mood: curiosity and fatigue
Core memory: reading

Prompt
snowy landscape with pages of books fluttering in the breeze. it is sunset and the clouds are low and foggy 35mm film chiaroscuro blue and purple tones

This class relies upon close reading, storytelling, and argumentative narrative development alongside data collection and analysis to reimagine and actionize a practice of learning that works across disciplines to better reach all students.

"We are ready to question the impersonality of a merely technical approach to data and to begin designing ways to connect numbers to what they really stand for: knowledge, behaviors, people."
—Giorgia Lupi

ADAPT's 10 Common Learning Elements

DATA PERSPECTIVES

1. Recognizing **data as information (not truth)** with error, variability, and missing information
2. Explaining **what it means to be a data scientist** and **AI expert**
3. Observing a **variety** of data scientist **role models and careers**

DATA PRACTICES

4. Examining **how data are created**, and the related assumptions and collection practices
5. Practicing data **curation, wrangling, and cleaning**
6. Assessing **validity of data, methods, results and communication**
7. Employing **design practices** such as documenting work, considering whether broadband is required for applications, including color palettes that are visible to people who are color blind, adding captions to video and adding descriptive text to images
8. Investigating **ethical issues** and ways to approach them

DATA DISCOVERIES

9. Articulating **current issues or open questions** in data science
10. Specifying **exciting discoveries or impacts** of data science

To learn more

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NC STATE UNIVERSITY Data Science and AI Academy

References

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