Savanah Barnes, Computer Scientist & Educator

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LINKS

LinkedIn, Github, Website

PROFILE

As a computer scientist and educator, I am passionate about using my skills and knowledge to address social issues and foster the growth of the next generation of scientists and researchers.

EDUCATION

Aug 2019 — May 2024	**B.S. & M.S. in Computer Science, Michigan State University, Honors College** — East Lansing

5-year M.S. program in CSE with Honors and three minors: environmental sustainability studies, cognitive science, and philosophy.

Aug 2019 — May 2023	**B.S. in Psychology, Michigan State University** — East Lansing

Dual-Degree with Computer Science

Aug 2023 — Nov 2023	**TAR Express: A Teaching-as-Research Very Short Course, CIRTL**

TAR course offered through the Center for the Integration of Research, Teaching and Learning

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EMPLOYMENT HISTORY

Aug 2023 — Present	**Graduate Teaching Assistant (GTA), Department of Computer Science** — East Lansing

Co-facilitating a lab for CSE 231 (Introduction to Computer Science - 1) with 30 students. I create and present material and help coordinate, develop, teach, and grade labs, homework, and exams. Additionally, I monitor the online class forum and make additional study materials based on student needs. Prior to becoming a GTA, I was an undergraduate teaching assistant for four years. My job responsibilites were the same.

Feb 2023 — Nov 2023	**Global Data Science Intern, Kellanova** — Battle Creek

Working with a global information technology and data science team to implement new technologies and learning material in Kellogg Company's workflow. I created an R Academy to asynchronously teach data scientists R coding and practice. The academy was created for those with a technical and non-technical background. Additionally, I was an integral part of the PVT project – creating and refactoring machine learning code to forecast raw material sales.

Feb 2022 — Nov 2024	**Instructional Design & Software Dev. Intern, Interoperability Institute** — Ann Arbor

Created learning content based on health IT standards such as FHIR and HL7 for insurance companies and other health IT focused persons. I designed and presented a full-stack application with the goal of being a data donation portal. This process included workflows and diagrams that included AWS services and a synthetic data generator.

Jun 2021 — Aug 2021	**Computational Data Science Intern, NASA** — Cleveland

Internship with NASA under the direction of Dr. Herbert Schilling, supporting the Aeronautics Research Mission Directorate. I researched graph databases and data visualization tools to create a full-stack application and prototype for the Convergent Aeronautics Solutions project, which was determined to be needed for immediate use. I participated in outreach events, including an adult and children's library workshop in AI. I presented my research and findings to both internal and external groups, including the greater NASA library system and the NSF.

Aug 2019 — Feb 2021	**Study Abroad Assistant, Institute for Global Health - MSU College of Osteopathic Medicine** — East Lansing

Helped plan, organize, and develop international study abroad programs for residents in the College of Osteopathic Medicine and pre-medicine undergraduate students. Duties included utilization of mail-chimp,

website creation, marketing and advertising content creation, social media management, and the planning and organization of travel itineraries and plans.

COURSES TAUGHT

Aug 2023 — Present

CSE 231 - Introduction to Python Programming 1, Michigan State University

East Lansing

Graduate Teaching Assistant - August 2023 - May 2024

Undergraduate Learning Assistant - August 2020 - May 2023

Total = 10 Semesters (incl. 2 Summer)

- Facilitated in-person and virtual group-lab sections of 7-40 students alone or with 1-2 other ULAs.
- Administered in-person and virtual exams with and without LockDown Browser.
- Utilized D2L course management software for entering student grades and feedback.
- Monitored student progress and provided intervention when necessary.
- Provided helproom and office hours, both virtual and in-person.
- Facilitated virtual exam review sessions.
- Moderated Piazza class forum.
- Created projects, learning materials, supplemental videos, and surveys.
- Proof-read each project, and most exams, for consistency and appropriateness.
- Provided weekly check-ins, including a mental health-check-in during the COVID-19 pandemic.
- Provided insight and training for new TAs and ULAs.

SKILLS

Python (Programming Language)

Data Science & Data Visualization

R/RStudio/Shiny (Programming Language & Software)

Statistics/Probability/Calculus

Teaching & Instructional Design

AI/ML/NLP

LANGUAGES

English

RESEARCH & PROJECTS

Present

(Independant) Ethics & AI

- A Hybrid Risk Account – Improving Koskinen's Account of Applicable Objectivity
- Autonomous Vehicle and Disability Project

Aug 2023 — Present

Digital Humanities and Literary Cognition Lab

MSU - Cognitive Science/English

- Data Analyist for Music & Narrative related research studies

Nov 2022 — Mar 2023

HAIL Lab

MSU - CSE

- AI Health Coaching Project
- PyTorch & Keras Experience

Aug 2020 — Aug 2022

Natural Language Processing / Computational Social Science Lab

MSU - CSE

- Undergraduate Honors Thesis
- Climate Change Project

PRESENTATIONS & TALKS

Mar 2024

Graduate Academic Conference

MSU

Oral Presentation : "A Hybrid Risk Account: Improving Upon Reliability (& Objectivity!) in Scientific Research"

Mar 2024

Graduate Academic Conference

MSU

Poster Presentation : "A Hybrid Risk Account – Improving Koskinen's Account of Applicable Objectivity"

Jun 2023	Michigan Council for Women in Technology (MCWT)

Panelist

- Topic: ConnectNet: AI and ChatGPT

2022	**University Undergraduate Research and Arts Forum (UURAF)** MSU

Oral & Poster Presentation - Undergraduate Thesis : "Measuring Cognitive Dissonance Following Climate Change: A Comparative Model in Differing Worlds"

PUBLICATIONS

2024

(In Review) A Hybrid Risk Account – Improving Koskinen's Account of Applicable Objectivity

Author: Savanah Barnes

(In Progress) COPTERS: A Dataset for Climate-Related Sentiment Analysis

Authors: Andrew McDonald, Savanah Barnes, Abhinav Nadh Thirupathi, Tyler Lovell, Mohammad M. Ghassemi, and Kristen Johnson

(In Progress) Driving Accessibility: Shifting the Narrative & Design of Autonomous Vehicle Systems for Persons with Disabilities through a Collaborative Scoring Rubric

Authors: Savanah Barnes & Maricarmen Davis

(In Progress) Measuring Cognitive Dissonance – A Comparative Model in Differing Worlds

Authors: Savanah Barnes, Kristen Johnson, Susan Ravizza

Undergraduate Thesis

SERVICE

2022 — 2023

Women in Engineering - Peer Mentor

Jul 2021

Teaching Training Video Creator
MSU - COE

Involved in the preparation and development of the Department of Computer Science Engineering TA training materials and videos

Jul 2021

AI Workshop Coordinator
Cleveland Public Libraries

Coordinated two workshops, one for adults and the other for children, in Artificial Intelligence while an intern at NASA. Provided age-appropriate activities through virtual, synchonous instruction.

Michigan Council for Women in Technology Website Judge

Judge (middle school and advanced high school) for website coding challenge presented by MCWT in 2023 and 2024.

AWARDS & HONORS

May 2023	Michigan Council for Women in Technology (MCWT)

Annual Student Speaker - Executive Connection Summit

2020 — 2023	Scholar	MCWT
2019 — 2023	Michigan Competitive Scholarship	
2019 — 2023	Dean's List	MSU

REFERENCES   References available upon request