Devin R. Wright

CONTACT
INFORMATION

Indiana University – Bloomington

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EDUCATION

Joint Ph.D., Cognitive Science & Informatics   August 2022 – Present
Complex Networks and Systems Track
Indiana University, Bloomington, IN, USA
B.S., Computer Science   December 2021
Utah Valley University, Orem, UT, USA
A.S., General Studies   April 2017
Brigham Young University – Idaho, Rexburg, ID, USA
California State University Long Beach, Long Beach, CA, USA
     Vocal Performance, Aug 2010 – Dec 2010

CERTIFICATIONS **Programmer**   August 2021
Utah Valley University, Orem, UT, USA

PUBLICATIONS †: equal contribution
Journal Articles

J1. Jing, E., DeDeo, S., Wright, D. R. & Ahn, Y.-Y. Sameness entices, but novelty enchants in fanfiction online. *Humanities & Social Sciences Communications.* Accepted for publication (in press).

J2. †Breithaupt, F., †Otenen, E., †Wright, D. R., Kruschke, J. K., Li, Y. & Tan, Y. Humans create more novelty than ChatGPT when asked to retell a story. *Scientific Reports* (2024).

Peer-reviewed Conference Proceedings

C1. Wright, D. R., Severance, T., Knutson, C. D., Krein, J. L. & Buchanan, T. D. An autonomous discord bot to improve online course experience and engagement: Lessons learned amid the covid-19 pandemic. *Proceedings of the IEEE Conference on Software Engineering Education and Training (CSEE&T). Maui, Hawaii* (2022).

Preprints

P1. †Wright, D. R. & †Beavers, A. F. Encountering the Other in the Cognitive Science of Religion. In preparation. (2025).

P2. Wright, D. R., An, J. & Ahn, Y.-Y. Cognitive Linguistic Identity Fusion Score (CLIFS): A Scalable Cognition-Informed Approach to Quantifying Identity Fusion from Text. Submitted. (2025).

PRESENTATIONS **Talks**

1. Wright, D. R. When "We" Means Me: AI, Identity Fusion, and Violence Risk. *Cognitive Lunch Seminar. Indiana University, Bloomington, Indiana* (2025).

2. Otenen, E., Wright, D. R., Tan, Y., Kruschke, J., Li, Y. & Breithaupt, F. Man vs. Machine: What ChatGPT Reveals about Human Memory, Emotion, and Creativity in the Serial Reproduction of Stories. *Midwest Cognitive Science Conference. Grand Rapids, Michigan* (2023).

3. Wright, D. R. & Cruz-Ortiz, G. E. Using Natural Language Processing and Machine Learning to Identify Trends in Flight Software Patch History. *NASA Virtual Intern Symposium, Summer 2021. Virtual–Greenbelt, Maryland* (2021).

4. Wright, D. R. & Welborn, C. R. Constructing an Assembler and Virtual Machine. *Utah Conference on Undergraduate Research 2021, hosted by Brigham Young University. Virtual–Provo, Utah* (2021).

Posters

1. Wright, D. R. Exploring the Impact of Factually Erroneous Cultural Mental Models on Community Understanding. *9th Biennial Meeting of the International Association for the Cognitive and Evolutionary Sciences of Religion. Oxford, United Kingdom* (2024).

2. Wright, D. R. & Welborn, C. R. Constructing an Assembler and Virtual Machine. *National Conference on Undergraduate Research 2021@home. Virtual* (2021).

3. Wright, D. R., Frank, J. & Dalal, M. Improving Plan Specification Language Usability and Applying Language to Model Autonomous Interplanetary Communications. *Ames Virtual Intern Poster Symposium and Exit Presentation Series. Virtual–Mountain View, California* (2020).

RESEARCH INTERESTS

The cognitive science and evolution of culture, stories, and religion.

How does cultural evolution drive the evolution of narratives and vice versa?
What is the role of narrative in identity fusion?
How do stories, identity, and ontological concepts affect the phenomenology of reality?

Patterns of novel thinking, collaboration, information spreading, and cooperation.

Aim to understand how narrative structures or ritual practices affect these patterns in social/collective/individual cognition.

Natural Language Processing, Understanding (NLP/NLU), and Culturomics

Research how concepts from cognitive science, information theory, embedding methods, machine learning (ML), artificial intelligence (AI), large language models (LLM), digital humanities, and network science can help us develop novel culturomics and NLP/NLU methods for cultural narrative analysis.

RESEARCH POSITIONS

CulturePulse, Bratislava, Slovakia

Research Scientist   May 2025 – Present

Natural language understanding and information extraction from text using large language models (LLMs).
Improving psychometric prediction through the integration of cognitive theories with LLMs and machine learning.
Bridging insights from cognitive science, computational modeling, and social behavior for real-world applications.
Collaborating across research and product teams to translate cutting-edge findings into scalable, interpretable AI systems.

IU Luddy School of Informatics, Computing, and Engineering, Bloomington, IN

Research Assistant   August 2024 – Present

Research regarding information resonance with existing belief systems and information propagation. Developing novel methods for the automated evaluation of identity fusion in individuals and groups using AI, ML, and LLM methods. Funded through the *Air Force Research Laboratory (AFRL). Research conducted under Professor Yong-Yeol Ahn (PI).*

Research Assistant Volunteer   August 2021 – April 2022

Belief networks and complex/simple contagion models. Research conducted under Professor Yong-Yeol Ahn and Rachith Aiyappa.

Ironwood Experts, LLC, Lehi, UT

Research Associate   April 2021 – June 2021

Led a team of three undergraduate researchers at Utah Valley University under the advisement of Professor Charles Knutson and Dr. Jonathan Krein. Our primary research was on the development of automated and asynchronous attendance-tracking methods for remote learning. We also researched their benefits to student behavioral engagement within university computer science courses. This research resulted in a paper published at CSEE&T in January 2022.

UVU Source Code Lab, Orem, UT

Research Assistant Volunteer   October 2019 – December 2021

Charter member – Recruited several original members.
Assisted in obtaining funding through an Ironwood Experts, LLC Research Associate internship program by demonstrating the need to improve online course experience and engagement during the COVID-19 pandemic.

INDUSTRY
POSITIONS

Serve-AI

Laurie Burns McRobbie Serve IT Clinic

Luddy School, Indiana University, Bloomington, IN   Bloomington, IN

Team Lead   May 2024 – August 2024

Lead project regarding public-interest technology for Serve AI (focused on Artificial Intelligence technologies). Done in collaboration with the Public Interest Technology University Network (PIT-UN).

NASA Goddard Space Flight Center
Universities Space Research Association, Greenbelt, MD

OSTEM Intern – Data Scientist   June 2021 – August 2021

- Used Machine Learning and Natural Language Processing methods to identify development patterns within flight software patch history.
  - Topic Modeling (Latent Dirichlet Allocation)
- Developed a web scraper to obtain 30 years of patch comment data left by NASA engineers over approximately 30 missions from HTML.
- Used Python, Pandas, and Scikit-learn to analyze and visualize the data.
- Used Docker containers to make the NLP/ML development environment easy to set up for other engineers.
- Worked on the NASA core Flight System (cFS). Researched and implemented some caching within the CI pipeline to speed up performance between jobs in GitHub Actions.

NASA Ames Research Center
Universities Space Research Association, Mountain View, CA

Summer Intern – Computer Scientist   May 2020 – August 2020

OceanWATERS

Ocean Worlds Autonomy Testbed for Exploration Research and Simulation:

- Developed and modeled autonomous interplanetary communications simulations using the Robot Operating System (ROS) and PLEXIL.
- Implemented simple simulation parameters to control simulation time and decisions on the ground.
- Researched how to speed up overall simulation time to run simulations lasting multiple sols.
- Worked on Windows Subsystem for Linux (WSL) compatibility with OceanWATERS.

PLEXIL

Plan Execution Interchange Language:

- Worked on improving the language, which was originally developed by researchers at NASA and Carnegie Mellon University.
- Developed a custom editing support extension in Emacs for the PLEXIL language.
- Translated LISP-based PLEXIL apps to standard PLEXIL syntax.
- Refactored sample application to use C++ style programming and some simple design patterns.
- Worked on WSL compatibility with PLEXIL.
- QA and software testing of PLEXIL and its various applications.

TEACHING EXPERIENCE

Instructor of Record

UVU Computer Science Department, Orem, UT

Adjunct Faculty Instructor   December 2021 – August 2022

Summer 2022

CS 2810: Computer Organization and Architecture
CS 2420: Introduction to Algorithms and Data Structures
CS 2370: C++ Programming

Spring 2022

CS 2810: Computer Organization and Architecture

Student Academic Appointee

IU Luddy Informatics Department, Bloomington, IN

Associate Instructor   August 2022 – August 2024

Summer 2023 & 2024

DSCI-D590: Data Visualization

Spring 2023 & 2024

INFO-I123: Data Fluency

Fall 2023

INFO-I222: The Information Society

Fall 2022

DSCI-D590: Data Visualization

INFO-I590: Data Visualization
INFO-I422: Data Visualization

Assistant

UVU Computer Science Department, Orem, UT

Teaching Assistant   August 2019 – December 2021

Fall 2021

CS 4490: Compiler Construction
CS 305G: Global Social and Ethical Issues in Computing

Spring 2021

CS 3450: Principles and Patterns of Software Design
CS 305G: Global Social and Ethical Issues in Computing

Spring 2020, Fall 2019 & 2020

CS 2810: Computer Organization and Architecture

SERVICE
Journal Reviewer: Nature: Humanities & Social Sciences Communications (2023);
Conference Reviewer: Hawaii International Conference on System Sciences HICSS-56 (2022);

PROFESSIONAL AFFILIATIONS
Research Labs:

Soda Lab
Experimental Humanities Lab
YY Group

Memberships:

The Association for Computational Linguistics (ACL)
The Cognitive Science Society (CSS)
International Association for the Cognitive and Evolutionary Sciences of Religion (IACESR)

HONORS & AWARDS
Scholarships and Funding

Joint PhD Funding   2022 – Present

Awarded by the Luddy School of Informatics, Computing, and Engineering at Indiana University Bloomington. Includes tuition remission, health insurance, stipend, and travel funding for research conferences.

Bob Cole Conservatory of Music Scholarship   2010

Awarded for vocal performance ability with purpose to study music at California State University Long Beach.

Miscellaneous Awards

Dean's List   Multiple

Spring 2021, Fall 2020, Spring 2020, Fall 2019, and Fall 2018.

Finalist in Last Voice Standing at BYU-I (Jul 2015)   2015

Finalist in a competition against other vocalists where each week contestants were given a different vocal challenge.

IN THE PRESS
Media Coverage of my Research

Generative AI and Human Cognition *News-Medical (Jan 2024)*; *PsyPost (Jul 2024)*

LANGUAGES	**English**:
	Native
	Portuguese
	Fluent reading, writing, and speaking. Lived in Brazil for just over a year.

OTHER SOFTWARE EXPERIENCE

Virtual Machine and Compiler Construction

Constructed a virtual machine and compiler for a custom object-oriented programming language called *kxi*. Language is capable of functions, recursion, objects, arrays, statements, and expressions using various data types. Language compiles to bytecode and runs on a custom virtual machine built from scratch. The VM has a RISC-based instruction set and a stack-based architecture. Capable of multithreading. Work on VM was presented at one state-level and one national-level conference.

Grad "Fit" Finder

Constructed a simple program to help students find and choose graduate programs that best "fit" them. The program takes into account the student's preferences and values. I used this to help me choose my own graduate program. Eventually, I hope to release it as an open-source tool for students with less academic privilege.

OTHER WORK EXPERIENCE

Canvasser Jan 2018 – Apr 2018
Grassroots Utah Strategies Inc. - Better Boundaries, Salt Lake City, UT, USA

Gathered signatures for Better Boundaries petition. Informed voters on the issue at hand and offered the opportunity to sign the petition. Efforts were successful as the issue was placed on voting ballots in 2018.

Field Investigator Aug 2017 – Dec 2017
Resources West Investigations, Clovis, CA, USA

Researched and investigated workers' compensation claims.
Produced detailed reports on facts and observations with respect to claim validity.

Construction Worker Oct 2016 – Jul 2017
Wheelhaus, Salt Lake City, UT, USA – Construction Site: Idaho Falls, ID, USA

Built tiny homes – trim, framing, flooring, cabinetry, gas lines, etc.

Field Investigator Apr 2008 – Aug 2016
Resources West Investigations, Clovis, CA, USA

Researched and investigated workers' compensation claims.
Produced detailed reports on facts and observations with respect to claim validity.
(Remained at the company, but did not work here during volunteer missionary service.)

VOLUNTEER EXPERIENCE

Missionary Apr 2013 – Mar 2015
The Church of Jesus Christ of Latter-day Saints, Salt Lake City, UT, USA

St. George, Utah - Apr 2013 – Mar 2014
São Paulo, Brazil - Mar 2014 – Mar 2015

St. George, Utah: Regional Director: Responsible for training, developing and managing four teams of volunteers. Performed, organized, and led volunteer humanitarian and

faith-based service in the form of community outreach, charitable support, compassionate care for the elderly and sick, and education and awareness.

São Paulo, Brazil: Regional Director: Responsible for three teams of volunteers.

English Tutor/Teacher (Brazil)

Volunteered to teach free basic English courses to classes ranging from 10-25 persons.

OTHER
INTERESTS
Besides vocal performance, plays guitar, bass, and drums. Dabbles in other instruments such as piano, ukulele, cavaquinho, and mandolin. Experience in recording/mixing/mastering music. Enjoys building and modifying desktop computers.

<div align="right">Last updated: May 30, 2025</div>