Devin R. Wright

CONTACT INFORMATION

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EDUCATION

Dual 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 and Social Sciences Communications* **12.** https://www.nature.com/articles/s41599-025-05166-3 (July 2025).

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*. https://www.nature.com/articles/s41598-023-50229-7 (2024).

Peer-reviewed Conference Proceedings

C1. 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. *Proceedings of the 2025 Conference on Empirical Methods in Natural Language Processing* (eds Christodoulopoulos, C., Chakraborty, T., Rose, C. & Peng, V.) 11643–11673. https://aclanthology.org/2025.emnlp-main.588/ (Nov. 2025).

C2. 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.* http://hdl.handle.net/10125/79442 (2022).

Preprints

P1. Wright, D. R. Narrative Networks as Meta-Representations: A Survey and Typology of Automated Extraction in Computational Linguistics. Under review (2026).

P2. Wright, D. R., Lane, J. E. & Shults, F. L. Language Predicts Identity Fusion Across Cultures and Reveals Divergent Pathways to Violence. Submitted. arXiv: 2602.08252 [cs.CL]. https://arxiv.org/abs/2602.08252 (2026).

Presentations

Talks

1. Wright, D. R., Lane, J. E., An, J., Shults, F. L. & Ahn, Y.-Y. From Noise to Signal: Identity Fusion from Language at Scale. *10th Biennial Meeting of the International Association for the Cognitive and Evolutionary Sciences of Religion, hosted by Masaryk University. Brno, Czech Republic* (2026).
2. Wright, D. R. When "We" Means Me: AI, Identity Fusion, and Violence Risk. *Cognitive Lunch Seminar. Indiana University, Bloomington, Indiana* (2025).
3. 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).
4. 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).
5. 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, hosted by Oxford Brookes University. 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).

In the press

Media Coverage of my Research

* Generative AI and Human Cognition *News-Medical (Jan 2024)*; *MSN (Jan 2024)*; *PsyPost (Jul 2024)*
* Culture *Ars Technica (Jul 2025)*; *La Derniere Heure (Jul 2025)*; *ResearchBuzz (Jul 2025)*

Research Interests

Cognitive science and cultural evolution of narratives and other cognitive artifacts.

* How stories and cultural forms shape meaning, experience, and identity over time.

Identity, cooperation, and collective behavior.

* Individual and collective identity formation, including identity fusion, and their roles in coordination, collaboration, and social dynamics.

Computational approaches to culture and language.

* Network science, NLP/NLU, ML/AI, information theory, and digital humanities methods for large-scale cultural analysis and comparative phenomenology.

Research Positions

CulturePulse, Bratislava, Slovakia

* Research Scientist Intern — May 2025 – April 2026
  * Paid intern from May 2025 to August 2025. Continued as a volunteer affiliate research scientist without pay or contractual obligations after August 2025. Research conducted under Justin E. Lane and F. LeRon Shults.
    * Natural language understanding and information extraction from text using large language models (LLMs).
      * Fine-tuned large language models for automated CAMEO event coding from text, improving semantic alignment of event labels relative to GDELT-based coding.
    * 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 first under Professor Jisun An (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:

* *ESOTERIC Lab* (PI: Jacob G. Foster; Indiana University Bloomington)
* *Soda Lab* (PI: Jisun An; Indiana University Bloomington)
* *Experimental Humanities Lab* (PI: Fritz Breithaupt; University of Pennsylvania)
* *Y Lab* (PI: Yong-Yeol "YY" Ahn; University of Virginia)

* *The DAN Research Group* (PI: Anthony "Tony" Beavers; Indiana University Bloomington)

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

* Dual 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.

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.

Last updated: April 16, 2026