Nan Zhang

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Education

Michigan State University East Lansing, MI
PH.D. candidate in *Information and Media* Expected May 2026

Ball State University Muncie, IN
M.A. *Digital Storytelling* GPA: 3.88 Aug 2018 – May 2020
M.S. *Computer Science* GPA: 3.97 Aug 2016 – May 2018
B.S. *Computer Science* GPA: 3.89 Aug 2012 – May 2016

Experience

Michigan State University

Teaching Assistant of Data Camp May 2024 – Aug 2024

- Collaborated with instructors to develop interactive course modules on Python, web scraping, data visualization, and machine learning, contributing to improved student engagement.
- Provided comprehensive support in classroom and laboratory settings, enhancing student learning experiences, and offering one-on-one support.
- Applied statistical methods alongside supervised and unsupervised machine learning algorithms to extract actionable insights and build predictive models from complex social science datasets.

Instructor of Advertising May 2023 – Aug 2023

- Designed and delivered Data Analytic; Taught data collection, analysis, and reporting methods for cross- and multi-channel media analytics to inform strategic advertising and public relations decisions
- Led hands-on workshops using industry-standard analytics platforms to measure campaign performance and evaluate the impact of integrated communication strategies.
- Guided students through media-mix analyses and case studies, culminating in strategic recommendations grounded in data insights.

Teaching Assistants of Advertising Aug 2020 – May 2021; Aug 2020 – May 2021

- Led weekly recitation sessions for 30+ students, guiding hands-on analysis of real-world advertising datasets to reinforce core analytics concepts
- Held regular office hours to clarify methods, review student work, and coach on strategic interpretation of analytics results
- Provided detailed feedback on assignments and projects, enhancing students' data-driven decision-making skills

Research Assistant funded by NIH Aug 2021 – May 2022

- PI is Dr. Anna Argyris Young and co-advised by Dr. Pang-Ning Tan from Computer Science
- Developed a vaccine misinformation portal using natural language processing techniques to analyze the frequency and sentiment of vaccine-related discourse across pre-, during-, and post-pandemic timelines.
- Applied statistical modeling to assess the causal relationship between vaccine-related social media content and immunization rates, contributing to NIH-funded public health research.

Ball State University

Teaching Assistant of Computer Science Aug 2016 – May 2018; Aug 2019 – May 2020

- Supported instruction in foundational and advanced courses, including Computer Science 1, Web Programming, Mobile Software Development, Multitier Web Architectures, Distributed Processing and Networks, Forensics, Network Security.
- Led labs, graded assignments, and assisted students in debugging and deploying code in seven undergraduate and graduate-level CS courses.

Graduate Assistant of Simulation and Information Technology Center Aug 2018 – May 2019

- Edited and produced multimedia content for online learning platforms and operations using Adobe Premiere.
- Supported clinical simulation sessions by setting up and operating recording equipment, improving session readiness and recording quality for faculty use.

Editorial Assistant of Critical Studies in Media Communication Aug 2018 – May 2019

- Edited and refined academic manuscripts and departmental reports, ensuring alignment with APA and journal style guidelines.
- Coordinated editorial communications between faculty and external contributors, streamlining the review and submission process.

Data Science & Computational Method

- **Programming Languages:** Python, R, HTML/CSS/JavaScript, SQL
- **Data Science & Analytics Tools:** Pandas, NumPy, Scikit-learn, Statsmodels, NLTK, OpenCV, TensorFlow, PyTorch, Tableau, SPSS
- **Web & App Development:** Streamlit, Flask, GitHub, Jupyter Notebook
- **Other Tools:** Adobe Premiere, Google Analytics, Qualtrics, LaTeX
- **Machine Learning Models:** Supervised and unsupervised algorithms for text, image, video classification, clustering, and topic modeling
- **Natural Language Processing Pipelines:** Tokenization, classification, sentiment analysis, LIWC-based psycholinguistic feature extraction
- **Advanced Algorithms:** Regression methods (logistic regression), ensemble models (random forest, XGBoost), and representation learning for predictive modeling and causal inference
- **Data Acquisition:** API-based scraping from Instagram and Twitter for large-scale dataset construction and analysis

Publication & Conference

Zhang, N., & Li, H.. Al-powered persuasion agents: A systematic review. (R&R)

Zhang, N., & Li, H.. Visual Aesthetics of Brand Posts and Instagram User Engagement: A Computational Approach. (R&R)

Zhang, N., & Li, H. & Ad Agency. Can AI Decode Creative Impact? Validating AI-Based Video Feature Analysis Against Neuroscientific Advertising Metrics (Work in Progress)

Li, H. **Zhang**, N. (2024) Computer Vision Models for Image Analysis in Advertising Research. *Journal of Advertising*. Doi: 10.1080/00913367.2024.2407644. (Corresponding author)

Zhang, N. Li, H. 2023) Advancing Advertising Strategies: A Comprehensive Analysis of Machine Learning in Image Analysis. Minnesota Computational Advertising Research Thought Leadership Forum.

Zhang, N. Li, H. Artificial Intelligence for Advertising Creativity: Advances and Implications. In AEJMC Washington, D.C. conference, August 7-10, 2023. Refereed Research Session: AI and Computational Advertising.

Y. A. Argyris, N. **Zhang**, B. Bashyal and P. N. Tan. Using Deep Learning to Identify Linguistic Features that Facilitate or Inhibit the Propagation of Anti- and Pro-Vaccine Content on social media. 2022 IEEE International Conference on Digital Health (ICDH), 2022, pp. 107-116, doi: 10.1109/ICDH55609.2022.00025. Barcelona, Spain.

Zhang, N., and Guo, M.. Like or Comment? Explore How Beauty Brands Use Instagram to Promote User Engagement. In BEA2021 conference, April 12-16, 2021. (Best student paper award – 1st place).

Brookey, R., and **Zhang**, N. The not-so Fantastic Four franchise: A critical history of the comic, the films, and the Disney/Fox merger. In *Comics and Videogames* (pp. 149-163). Routledge.

Guo, H., **Zhang**, N., Wu, S., and Yang, Q.. Deep Learning Driven Wireless Real-time Human Activity Recognition. In ICC 2020-2020 IEEE International Conference on Communications (ICC), pp. 1-6. IEEE, 2020.

Guo, H., **Zhang**, N., Shi, W., Saeed., A., Wu, S., and Wang, H.. Real-time indoor 3d human imaging based on mimo radar sensing. In IEEE International Conference on Multimedia and Expo (ICME), pp. 1408-1413. IEEE, 2019.