Curriculum Vitae

Lingshu HU Ph.D.

Assistant Professor of Business Administration and Data Science

Washington and Lee University

Huntley Hall, 204 W. Washington Street. Lexington, VA 24450

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GitHub: github.com/LingshuHu

ACADEMIC APPOINTMENTS

Washington and Lee University,   **Lexington, VA**
The Williams School of Commerce, Economics, and Politics
Assistant Professor of Business Administration (Data Analytics)   Spet. 2021–Present
The College
Core Faculty of Data Science   Spet. 2022–Present

INFORMS Annual Meeting Social Media Analytics Section
Vice President   Jan. 2024–present

EDUCATION

University of Missouri   **Columbia, MO**
School of Journalism
Ph.D. in Journalism (Computational Methods)   Aug. 2017–July 2021
- Advisor: Dr. Michael W. Kearney | kearneymw@missouri.edu | (573) 882-0424
- Committee: Dr. Glen T. Cameron; Dr. Shuhua Zhou; Dr. Kennon M. Sheldon (Psychology); Dr. Jianlin Cheng (Computer Science)
- Dissertation Topic: Using Communicative Patterns to Predict Twitter Users' Social Capital, Likability, and Popularity Gains with Natural Language Processing (Top Dissertation in 2021 at the School of Journalism, University of Missouri)
- Qualified for membership in Kappa Tau Alpha (KTA), the national honor society in journalism and mass communication.

Department of Electrical Engineering & Computer Science
M.S. in Computer Science (AI and Machine Learning)   June 2021–May 2022
- Advisor: Dr. Yi Shang | shangy@missouri.edu | (573) 884-7794

- Thesis Title: Performance Evaluation of Text Augmentation Methods with BERT on Imbalanced Datasets
- Qualified for membership in Upsilon Pi Epsilon (UPE), the International Honor Society for the Computing and Information Disciplines.

Graduate Certificate in AI and Machine Learning   Aug. 2018–July 2021

London School of Economics and Political Science,

Gender Institute   **London, UK**

M.S. in Gender, Media and Culture   Oct. 2011–Sep. 2012

- Advisor: Dr. Sadie Wearing
- Thesis Title: Changes of Chinese Masculinity: An exploration of changes in the portrayal of men and masculinity in Chinese film posters from 1949 to 2011.

Communication University of Zhejiang (Former Name: Zhejiang University of Media and Communications),

School of Journalism & Communications   **Hangzhou, China**

B.A. in Broadcast Journalism   Sept. 2006–June 2010

RESEARCH RECORD

A. Journal Articles

Hu, L. (2024). Mobilization, self-expression or argument? A computational method for identifying language styles in political discussion on Twitter. *Online Information Review*. https://doi.org/10.1108/OIR-10-2022-0545 (IF: 3.3)

Hu, L. (2023). A two-step method for classifying political partisanship using deep learning models. *Social Science Computer Review.* https://doi.org/10.1177/08944393231219685 (IF: 4.7)

Xu, M., **Hu, L**., & Hinnant, A. (2023). Pseudo-events: Tracking mediatization with machine learning over 40 years. *Computers in Human Behavior, 144, 107735*. https://doi.org/10.1016/j.chb.2023.107735 (IF: 9.9)

Xu, M., **Hu, L**., & Cameron, G. T. (2023). Tracking moral divergence with DDR in presidential debates over 60 Years. *The Journal of Computational Social Science, 6,* 339–357. https://doi.org/10.1007/s42001-023-00198-8 (IF: 3.2)

Zhang, W., **Hu, L.**, & Park, J. (2022). Politics go "viral": A computational text analysis of crisis attribution regarding the COVID-19 pandemic. *Social Science Computer Review, 41*(3), 790–811. https://doi.org/10.1177/08944393211053743 (IF: 4.7)

Hu, L., Kearney, M. W., & Frisby, C. M. (2021). Tweeting and retweeting: Gender discrepancies in discursive political engagement and influence on Twitter. *Journal of Gender Studies, 32*(5), 441–459. http://dx.doi.org/10.1080/09589236.2021.1995340 (IF: 2.2; Q1)

Hu, L. (2021). Self as brand and brand as self: A 2x2 dimension conceptual model of self-branding in the digital economy. *Journal of Internet Commerce, 20*(3), 355–370. http://dx.doi.org/10.1080/15332861.2021.1907170 (IF: 4.8)

Hu, L., & Kearney, M. W. (2021). Gendered tweets: Computational text analysis of gender differences in political discussions on Twitter. *Journal of Language and Social Psychology, 40*(4), 482–503. https://doi.org/10.1177/0261927X20969752 (IF: 2.4)

Hu, L. (2018) Is masculinity 'deteriorating' in China? Changes of masculinity representation in Chinese film posters from 1951 to 2016. *Journal of Gender Studies, 27*(3), 335–346. https://doi.org/10.1080/09589236.2017.1399867 (IF: 2.2; Q1)

Hu, L. (2016) Communication effects of data journalism on Weibo (microblog). *Editorial Friend* (2), 70–74. (In Chinese)

He, L., **Hu, L.**, Li, W., & Zhang, Z. (2016). Title attractors and negative energy: Language style analysis of organizational media's official accounts on WeChat. *The Press* (13), 42–47. (In Chinese)

B. Refereed Conference Proceedings

Li, C., Pang, B., Wang, W., **Hu, L.**, Gordon, M., Marinova, D., Balducci, B., & Shang, Y. (2023). How Well Can Language Models Understand Politeness? *The Proceedings of the 2023 IEEE Conference on Artificial Intelligence.* https://doi.org/10.1109/CAI54212.2023.00106

Hu, L., Li, C., Wang, W., Pang, Bin., & Shang, Y. (2022). Performance Evaluation of Text Augmentation Methods with BERT on Small-sized, Imbalanced Datasets. *The Proceedings of the 2022 IEEE International Conference on Cognitive Machine Intelligence* (CogMI). https://doi.org/10.1109/CogMI56440.2022.00027

Li, C., Wang, W., Balducci, B., **Hu, L.,** Gordon, M., Marinova, D., and Shang, Y. (2022). Deep Formality: Sentence Formality Prediction with Deep Learning. *The Proceedings of the 2022 IEEE International Conference on Information Reuse and Integration for Data Science.* https://doi.org/10.1109/IRI54793.2022.00014

C. Edited Book Chapter

He, L., **Hu, L.**, & Yu, L. (2016). The communication features and the psychological mechanism of rumors on WeChat. In X. Tang, X. Wu, and C. Huang (Eds.), *Annual Report on Development of New Media in China (No.7)* (pp. 102-118). Social Science Academic Press. (In Chinese)

D. Invited Conference Presentation

Hu, L. (2022, November 12). *Using Communicative Patterns to Predict Twitter Users' Social Capital Gains with Natural Language Processing*. The International Conference on Digital Communication and Cross-Cultural Communication. Tongxiao, China.

E. Refereed Conference Presentations

Hu, L., & Zhang, W. (2023, October 15–18). *Examining the Effects of Firms' DEI Tweets with Deep Learning*. Paper presented at the 2023 INFORMS Annual Meeting, Phoenix, AZ.

Dirk, L., Wang, T., Yang, X., & **Hu, L.** (2023, August 4–8). *Top entrepreneurship research in the past 20 years: Topics and impacts*. Paper presented at the 83rd Annual Meeting of the Academy of Management, Boston, MA.

Wang, T., Dirk, L., **Hu, L.**, & Yang, X. (2023, June 7–10). *The Intellectual Structure of The Entrepreneurship Field and The Diffusion of Entrepreneurship Research in Mainstream Top Management Journals*. Paper presented at the 43rd Babson College Entrepreneurship Research Conference, Knoxville, TN.

Xu, M., **Hu, L.**, & Hinnant, A. (2022, October 19–22). *Tracking Mediatization with a Machine Learning Classifier of Pseudo-Events.* Paper presented at the 9th European Communication Conference, Aarhus, Denmark.

Hu, L. (2022, May 26–30). *A Two-Step Method to Classify Political Partisanship Using a Deep Learning Model*. Paper presented at the 72nd ICA Annual Conference, Paris, France.

Xu, M., **Hu, L.**, & Hinnant, A. (2022, May 26–30). *Pseudo-Events: Tracking Mediatization With Machine Learning Over 40 Years*. Paper presented at the 72nd ICA Annual Conference, Paris, France.

Hu, L. (2021, August 4–7). *I, We, You, or They? Language Styles in Political Discussion on Twitter*. Paper presented at the 2021 AEJMC Annual Conference, Virtual.

Hu, L. (2021, August 4–7). *Boosting Texts: Improving Text Classification Performance on Small-Sized, Imbalanced Datasets*. Paper presented at the 2021 AEJMC Annual Conference, Virtual.

Xu, M., & **Hu, L.** (2021, August 4–7). *Tracking Moral Divergence with DDR in Presidential Debates Over 60 Years*. Paper presented at the 2021 AEJMC Annual Conference, Virtual.

Hu, L., & Sheldon, K. (2021, May 27–31). *Negativity is not Always Negative: Positive Effects of Negative Expression on Twitter*. Paper presented at the 71th ICA Annual Conference, Virtual.

Zhang, W., **Hu, L.**, & Park, J. (2020, August 6–9). *When Virus Goes Political: A Computerized Text Analysis of Crisis Attribution on COVID-19 Pandemic*. Paper presented at the 103rd AEJMC Annual Conference, Virtual.

Hu, L., & Frisby, C. M. (2020, May 20–27). *Reconstruct the "Spiral": Positive and Negative Motivations Predicting Outspokenness in Online and Offline Scenarios*. Paper presented at the 70th ICA Annual Conference, Virtual.

Hu, L., & Kearney, M. W. (2020, May 20–27). *Gendered Tweets: Text Analysis of Gender Differences in Political Discussions on Twitter*. Paper presented at the 70th ICA Annual Conference, Virtual.

Hu, S., & **Hu, L.** (2020, May 20–27). *Predictors of Perceived Information Credibility in an Online Health Forum: A Computerized Content Analysis of Big Dataset*. Paper presented at the 70th ICA Annual Conference, Virtual.

Kearney, M. W., **Hu, L.**, & Alieva, I. (2019, August 7–10). *Classifying Twitter Bots*. Paper presented at the 102nd AEJMC Annual Conference, Toronto, Canada.

Hu, L., & Frisby, C. M. (2019, May 24–28). *Outside the "Spiral": Factors Predicting Outspokenness in Online and Offline scenarios*. Paper presented at the 69th ICA Annual Conference, Washington, DC.

Abeyta, A., Alieva, I., Park, J., Warner, B. R., **Hu, L.**, & Kearney, M. W. (2019, April 3–7). *Analyzing Tweets from Candidates for the U.S. Congress in the 2018 U.S. Midterm Elections*. Paper presented at the 88th Annual Meeting of Central States Communication Association, Omaha, NE.

Hu, L., & Kearney, M. W. (2018, August 6–9). *Speaking in a woman's name: Gender difference of political expressive participation on Twitter*. Paper presented at the 101st AEJMC Annual Conference, Washingdon, DC.

F. Media Appearances

Doctor-E (Tencent Research Center). (2020). Whether twitter users appreciate Chinese aids for COVID-19. Retrieved from https://mp.weixin.qq.com/s/tyfsxBJQ1HVJVfn848LxJA (In Chinese).

CCTV News Center. (2016). WeChat exceeds Weibo in misinformation spreading. Retrieved from https://www.jfdaily.com/news/detail?id=21541 (In Chinese).

People.cn. (2016). Rumor analysis for WeChat official accounts: Annual data report (2016). Retrieved from http://society.people.com.cn/n1/2016/0408/c1008-28262054.html (In Chinese).

Beijing Daily. (2016). Rumor analysis for WeChat official accounts: Annual data report (2016). Retrieved from http://www.cac.gov.cn/2016-04/03/c_1118522878.htm (In Chinese).

SOFTWARE DEVELOPMENT

Hu, L. (2023). PolitiClassify: A Python package for classifying Twitter users' political orientation using two-step deep learning models (Version 0.1.6) [Python package]. https://github.com/LingshuHu/PolitiClassify

Hu, L., & Kearney, M. W. (2019). healthforum: Scrape Patient Forum Data (Version 0.1.0) [R package]. CRAN. https://CRAN.R-project.org/package=healthforum

Kearney, M. W., & **Hu, L.** (2019). wactor: Word Factor Vectors (Version 0.0.1) [R package]. CRAN. https://CRAN.R-project.org/package=wactor

Kearney, M. W., **Hu, L.,** & Alieva, I. (2019). ppcong: Interfacing with ProPublica's 'Congress' API (Version 0.0.2) [R package]. CRAN. https://CRAN.R-project.org/package=ppcong

Kearney, M. W., Hvitfeldt, E., & **Hu, L.** (2019). textfeatures: Extracts Features from Text (Version 0.3.3) [R package]. CRAN. https://CRAN.R-project.org/package=textfeatures

TEACHING RECORD

A. List of Courses

Instructor of Record Winter 2023–2024
BUS 306 Applied AI and Machine Learning
Washington and Lee University, The Williams School
- Enrollment: 17

Instructor of Record Winter 2023–2024
BUS 202 Fundamentals of Business Analytics
Washington and Lee University, The Williams School
- Enrollment: 35

Instructor of Record Fall 2023–2024
BUS 202 Fundamentals of Business Analytics

Washington and Lee University, The Williams School
- Enrollment: 36

Instructor of Record   Winter 2022–2023

INTR 202 Applied Statistics

Washington and Lee University, The Williams School
- Enrollment: 53

Instructor of Record   Fall 2022–2023

BUS 306 Applied AI and Machine Learning

Washington and Lee University, The Williams School
- Enrollment: 13

Instructor of Record   Fall 2022–2023

INTR 202 Applied Statistics

Washington and Lee University, The Williams School
- Enrollment: 17

Instructor of Record   Winter 2021–2022

INTR 202 Applied Statistics

Washington and Lee University, The Williams School
- Enrollment: 35

Instructor of Record   Fall 2021–2022

INTR 202 Applied Statistics

Washington and Lee University, The Williams School
- Enrollment: 37

Teaching Assistant (Grading and Lecturing)   Spring 2021

JOURN 4430/JOURN 7430 Computer-Assisted Reporting

University of Missouri, School of Journalism
- Enrollment: 22

Instructor of Record   Fall 2020

JOURN 1200 Fundamentals of Visual Journalism and Strategic Communication

University of Missouri, School of Journalism
- Enrollment: 19

Teaching Assistant (Grading and Lecturing)   Spring 2020

JOURN 1200 Fundamentals of Visual Journalism and Strategic Communication

University of Missouri, School of Journalism
- Enrollment: 19

Co-Instructor (Instructing under Supervision)   Fall 2019

JOURN 2150 Fundamentals of Multimedia Journalism

University of Missouri, School of Journalism

- Enrollment: 57 (Three Sections)

Co-Instructor (Instructing under Supervision)   Spring 2019

JOURN 2150 Fundamentals of Multimedia Journalism

University of Missouri, School of Journalism

- Enrollment: 47 (Three Sections)

Teaching Assistant (Lecturing)   Fall 2018

JOURN 2150 Fundamentals of Multimedia Journalism

University of Missouri, School of Journalism

- Enrollment: 57 (Three Sections)

Part-Time Lecturer & Curriculum Advisor   March 2016–June 2017

New media editing and data journalism

Dongguan Polytechnic, Dongguan, China

B. Guest Speaker

Data Journalism and Computer Programming   Nov. 2023

The Class of 2027

Communication University of China, China

Analyzing Non-Numerical Data with Machine Learning in Business   Feb. 2023

Diversified Capital Group

Washington and Lee University

Data Journalism and Computer Programming   Dec. 2022

The Class of 2026

Chengdu University of Technology, China

Data Analytics with AI and Machine Learning   Nov. 2022

ISC361 Direct Response Targeting: Media and Database Management

University of Kentucky

Data Journalism and Computer Programming   Oct. 2021

The Class of 2025

Communication University of China, China

Data Analytics with NLP (And More)   Oct. 2021

W&L student consulting

Washington and Lee University

Computational Methods and Big Data   Spring 2021

JMC 3350 Communication Research Method

University of Nebraska Omaha, School of Communication

RESEARCH & TEACHING SKILLS

- Programming Skills: **R** (6 years), **Python** (5 years), **SQL, HTML**, **CSS**. Experience with developing **R packages** for data scraping and text vectorization. Experience with applying **machine learning, deep learning,** and **NLP** to social science research.
- Statistics Skills: Experience with using Poisson regression, negative binomial regression, logistic regression, multilevel modeling, spline regression, SEM, cluster analysis, and time series analysis in research.
- Multimedia Skills: Experience with teaching Adobe Photoshop, Adobe InDesign, Adobe Premiere Pro, and Adobe Audacity.
- Languages: Chinese (native), English (proficient)

ACADEMIC SERVICE

Vice President of Social Media Analytics Section
- INFORMS Annual Meeting   Jan. 2024–present

Job Search Committee
- Assistant/Associate Professor of Business Administration (Data Analytics), Washington and Lee University   Aug.–Dec. 2022
- Assistant/Associate Professor of Business Administration (Data Analytics), Washington and Lee University   Jan.–May 2022

AI-Hub Committee
- Washington and Lee University   Sep. 2023–present

Recruitment Ambassadors
- Washington and Lee University   Sep. 2023–present

Public Functions Committee
- Washington and Lee University   Aug. 2022–Dec. 2023

Journal Reviewer
- *Social Science Computer Review*   Nov. 2023–present
- *International Journal of Public Opinion Research*   July 2023–present

- *Sustainability*   Mar. 2023–present
- *Psychological Science*   Dec. 2022–present
- *Electronics*   Dec. 2022–present
- *Journalism and Media*   Nov. 2022–present
- *The Chinese Journal of Comparative Law*   June 2022–present
- *Feminist Media Studies*   Mar. 2022–present
- *Mass Communication and Society*   Dec. 2021–present
- *International Journal of Communication*   Sept. 2021–present
- *Human Communication Research*   Sept. 2020–present
- *Journal of Language and Social Psychology*   May 2020–present
- *Journal of Global Media and China*   June 2019–present
- *Visual Communication Quarterly*   Sept. 2018–present

Conference Paper Reviewer

- ICA Computational Methods Division   Dec. 2019–present

Panel Speaker

- INTDSC 2001 Intro to Research, Fellowship & Discovery (MU)   Spring 2021
- INTDSC 2001 Intro to Research, Fellowship & Discovery (MU)   Fall 2020

Member of INFORMS   June. 2023–present

Member of Academy of Management (AOM)   Apr. 2023–present

Member of IEEE   Nov. 2022–present

Member of ICA Computational Methods Division   Mar. 2019–Apr. 2023

Staff of PCI (political communication institute at MU)   Aug. 2018–present

Member of AEJMC   June 2018–July 2022

PROFESSIONAL EXPERIENCE

Editor & Data Journalist

***Guangzhou Daily**, Guangzhou, China*   Aug. 2013–June 2017

- Editing, translating, and producing stories for *Guangzhou Daily* News Application and its official accounts on Micro blog and WeChat platforms.
- Data collecting, sorting, analyzing, and interpreting; coordinating with designers and programmers to produce data reports.

Intern Reporter

Deyang TV Station, Deyang, China   Jan. 2010–Apr. 2010

- Assisting in searching background information to support news reporting.
- Interviewing, video shooting, and news writing.

RESEARCH POSITIONS

Research Assistant, Dr. Michael W. Kearney

University of Missouri, School of Journalism   Aug. 2017–May 2021

Research Assistant, Dr. Cynthia M. Frisby

University of Missouri, School of Journalism   Aug. 2017–May 2018

Part-Time Research Assistant, Dr. Lingnan He

Sun Yat-Sen University, Lab for Big Data and Communication   Mar. 2015–June 2017

GRANT, HONORS, & AWARDS

A. Grants

WLU Lenfest Research Grant   Sept. 2023
- $7,500

WLU Lenfest Research Grant   Sept. 2022
- $7,500

WLU Summer Research Grant   Sept. 2021
- $7,500

Funded as Research Assistant

Internal Funding for Big Data Research and Training, Columbia MO   June–July 2019
- $3,000

Funded as Research Assistant

Graves Strategic Communication Faculty Facilitation Fund, Columbia MO   Apr. 2018
- Survey for the "Spiral of Silence Study" $2,500

B. Awards & Scholarships

Top Dissertation   Sept. 2021

School of Journalism, University of Missouri, U.S.

Outstanding Graduate Student Teaching Assistant Award   May 2021

Chinese Communication Association

Donald S Mozley Scholarship   2017–2020

University of Missouri, U.S.

Monthly News Reporting Awards   2016–2017

Guangzhou Daily, Guangzhou, China

Award for Outstanding Graduates   June 2010

Communication University of Zhejiang, Hangzhou, China

Scholarship for Excellent Social Work   June 2010

Communication University of Zhejiang, Hangzhou, China

Award for the Best Eloquence in Debates   Apr. 2009

Branch of Youth League Commission in School of Journalism and Communication, Communication University of Zhejiang, Hangzhou, China

First Prize in Video Competition   Dec. 2008

The 7th Zhejiang Undergraduate Multimedia Works Design Competition, Undergraduate Students' Science and Technology Contest Committee of Zhejiang Province, Hangzhou, China

Third Prize in Photography Competition   Jan. 2008

Branch of Youth League Commission in School of Journalism and Communication, Communication University of Zhejiang, Hangzhou, China

First-Class Scholarship   Dec. 2007

Communication University of Zhejiang, Hangzhou, China

CERTIFICATES

AI and Machine Learning   July 2021

Department of Electrical Engineering & Computer Science, University of Missouri

Psychological Consultant Level 3   Apr. 2015

Occupational Skill Testing Authority, China

Planar Designer   June 2010

Computer Education Authorization and Certification, China

Zhejiang Computer Rank Examination Level 3   Sept. 2009

Department of Education of Zhejiang Province, China