

Chen Liang, PhD

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I. EDUCATION

- 2012-2017 Ph.D. in Biomedical Informatics
University of Texas Health Science Center (UTHealth), Houston, Texas
- 2009-2012 M.S. in Psychology
Soochow University, Suzhou, China
- 2004-2008 B.E. in Electrical and Information Engineering (with honors)
Soochow University, Suzhou, China

II. POSTDOCTORAL TRAINING

- 2022-2023 Big Data Health Science Fellowship
NIH/NIAID (R25AI164581-01)
Mentors: Xiaoming Li, Sharon Weissman
- 2019 NIH Boot Camp
Arnold School of Public Health
University of South Carolina, Columbia, South Carolina

III. ACADEMIC APPOINTMENTS AND AFFILIATIONS

- 2019-pres. Faculty Affiliate
Big Data Health Science Center
University of South Carolina, Columbia, South Carolina
- 2019-pres. Faculty Affiliate
South Carolina SmartState Center for Healthcare Quality
University of South Carolina, Columbia, South Carolina
- 2019-pres. Assistant Professor (tenure track)
Department of Health Services Policy & Management
Arnold School of Public Health
University of South Carolina, Columbia, South Carolina
- 2017-2019 Assistant Professor (tenure track)
Department of Health Informatics & Information Management
Louisiana Tech University, Ruston, Louisiana

IV. HONORS AND AWARDS

- 2016 Merrill & Joe Hafner Fellowship for Potential Leaders in Informatics

	UTHealth School of Biomedical Informatics, Houston, Texas
2016	Thomas F. Burks Scholarship for Academic Merit UTHealth, Houston, Texas
2016	Telluride Experience Patient Safety Scholar Georgetown University Hospital & MedStar Health, Washington, DC
2015	Dr. Noriaki Aoki Award UTHealth School of Biomedical Informatics, Houston, Texas
2015	Student Paper Competition Finalist The 15 th World Congress on Medical and Health Informatics, Sao Palou, Brazil
2013-2016	Competitive Scholarship UTHealth School of Biomedical Informatics, Houston, Texas
2012	Paul C. Boyle Award for Excellence in Research UTHealth School of Biomedical Informatics, Houston, Texas

V. PROFESSIONAL SOCIETIES

American Medical Informatics Association (AMIA)

Association for Computing Machinery (ACM)

VI. RESEARCH

i. Research Interests

- Biomedical Informatics and Data Science
 - Large-scale and multi-modal Electronic Health Records (EHR), EHR-based phenotyping, comorbidity and prognosis prediction, clinical decision support, clinical implementation science, OHDSI OMOP CDM
 - Semantic web ontology
 - Knowledge discovery and data mining, machine learning, clinical natural language processing
- Cognitive Science
 - Computational linguistics, knowledge representation, reasoning, decision making, and artificial intelligence.
- Health Sciences Application
 - Infectious and immune-mediated diseases (e.g., COVID-19, HIV/AIDS)
 - OB/GYN
 - Cardiovascular
 - Dental medicine
 - Substance use disorder

ii. Grants and Funding

Extramural Grants

2022-2027	Co-I	Mitigating effects of telehealth uptake on disparities in maternal care access, quality, outcomes, and expenditures during the COVID-19 pandemic (pending) Sponsor: NIH/NIAID
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- MPI: Peiyin Hung, Xiaoming Li
My responsibility: Performing data integration, imputation, EHR-based phenotyping, clinical information extraction. Developing and evaluating machine learning models for predictive analysis.
- 2022-2027 Co-I "Chanjo Kwa Wakati" - Leveraging community health workers and a responsive digital health system to improve vaccination coverage and timeliness in rural settings (pending)
Sponsor: NIH/NIAID
MPI: Jan Ostermann, Esther Ngadaya, Lavanya Vasudevan
Total award: \$ 3,497,096
My responsibility: Leading Aim 3 to develop machine learning predictive models. Conducting systematic validation of predictive models. Clinical implementation of predictive models.
- 2022-2023 PI Identifying Predictive Factors of HIV Care Discontinuation Using Clinical Natural Language Processing
Sponsor: Prisma Health
Total award: \$19,940
Major goals: To identify factors associated with HIV care discontinuation. To develop a pilot machine-learning model for predicting HIV care discontinuation.
- 2021-2023 Co-I Multilevel Determinants of Racial and Ethnic Disparities in Maternal Morbidity and Mortality in the Context of COVID-19 Pandemic (3R01AI127203-05S2)
Sponsor: NIH/NIAID
MPI: Xiaoming Li, Jihong Liu
Total award: \$886,186
My responsibility: 1) Phenotyping a national multi-center EHR cohort of pregnant women with COVID-19, which involves OHDSI OMOP CDM mapping and multimodal EHR integration and normalization. 2) Leading Aim 3 to develop machine learning models for predicting severe maternal morbidity and mortality.
- 2021-2023 PI Deep learning assisted opioid use disorder diagnosis using EHR data
Sponsor: Prisma Health
Co-PI: Christina Andrews
Total award: \$19,992
Major goals: To develop a Deep Learning model to assist providers in Opioid Use Disorder diagnosis by harnessing individuals' chronological EHR.
- 2021-2023 PI Towards personalized discharge summaries for reducing medication-related harm
Sponsor: Prisma Health
Total award: \$19,986
Major goals: To identify and evaluate personalized information that can be included in discharge summary jointly using EHR chart review, clinical NLP, and machine learning.
- 2019-2020 Co-PI Providing mental health services to LGBT-identified community members of northeast Louisiana (32-3625-68124)
Sponsor: Living Well Foundation
PI: Dena Abbott

Fund requested: \$30,696

Intramural Grants

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| 2021-2022 | Co-I | COVID-19 Vaccine Hesitancy Among Cancer Communities
Sponsor: CIC/CON, University of South Carolina
PI: Karen Wickersham
Total award: \$10,000 |
| 2021-2023 | PI | Deep Phenotyping individuals with PASC using a Graph representation model of S3C (BDHSC-2021-08)
Sponsor: Big Data Health Science Center, University of South Carolina
Total award: \$30,020
Major goals: To pilot a high-throughput Deep Phenotyping approach to identify and characterize phenotypes of individuals with Post-Acute Sequelae of SARS-CoV-2 infection (PASC) using multi-modal, longitudinal, extended EHR from the South Carolina COVID-19 Cohort Collaborative (S3C). |
| 2021-2022 | Co-I | Multilevel Determinants of Racial/Ethnic Disparities in Maternal Morbidity and Mortality in the Context of the COVID-19 Pandemic (BDHSC-2021-04)
Sponsor: Big Data Health Science Center, University of South Carolina
PI: Jihong Liu
Total award: \$30,000 |
| 2021-2022 | Co-I | Identifying a COVID-19 patient cohort based on Twitter data for PASC symptoms analysis (BDHSC-2021-11)
Sponsor: Big Data Health Science Center, University of South Carolina
PI: Shan Qiao
Total award: \$34,000 |
| 2021-2022 | Co-PI | Toward validating a tool to measure distrust of COVID-19 inoculation programs among African Americans (135800-21- 55617)
Sponsor: Racial Justice and Equity Fund, University of South Carolina
PI: Cheryl Armstead
Total award: \$14,768 |
| 2020-2022 | Co-I | Using EHR and community data to predict medication-related post-discharge acute care utilization
Sponsor: Big Data Health Science Center, University of South Carolina
PI: Ronda Hughes
Total award: \$50,000 |
| 2017-2018 | PI | Distributional semantics to characterize cognitive patterns in HIV/AIDS online community
Sponsor: Faculty Research Mini Grant, Louisiana Tech University
Total award: \$1,000
Major goals: To identify and analyze cog-behavioral patterns among HIV/AIDS individuals' health communications on the Web using NLP and machine learning. |

VII. TEACHING

i. Graduate Courses

University of South Carolina

2022-pres.	HSPM 830 Advanced Data Structures and Analytic Methods for Health Services Research
2021	HSPM 791 Special Topic: Informatics and Data Management
2020-pres.	HSPM 713 Information Systems in Health Administration

Louisiana Tech University

2017-2018	HIM 502 Database Architecture
2017-2018	HIM 510 Introduction to Health Informatics
2017-2019	HIM 599 Capstone Project
2017-2019	HIM 505 Health Informatics Advanced Statistical Methods

University of Texas Health Science Center

2015-2016	BMI 5360 Clinical Decision Support System (TA)
2014-2015	BMI 5304 Advanced Database Concepts in Biomedical Informatics (TA)
2013-2015	BMI 5007 Algorithms and Data Structures in Biomedical Informatics (TA)

ii. Undergraduate Courses

Louisiana Tech University

2018	HIM 129 Technology Applications for Healthcare
2018	HIM 229 Introduction to Health Information Technology
2017-2018	HIM 350 Data Management in Healthcare
2017-2018	HIM 128 Computer Applications for Healthcare Professionals
2017-2018	HIM 333 Introduction to Epidemiology and Applied Statistics in Healthcare

iii. Guest Lectures

University of South Carolina

2021	EPID 788 Practical Methods in Secondary Data Analysis (instructor: Jihong Liu) “Data structures of Electronic Health Records (EHR) and concepts of EHR-based data mining”
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iv. Mentoring PhD Students

Primary advisor and/or chair of doctoral dissertation committees

2020-pres.	Tianchu Lyu Health Services Policy & Management, University of South Carolina Arnold School of Public Health, Columbia, SC
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Member of doctoral dissertation committees

2021-2022	Jessica Purser (Chair: Ronnie Horner) Health Services Policy & Management, University of South Carolina Arnold School of Public Health, Columbia, SC
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v. Mentoring Master’s Students

2022-pres. Nadia Ghumman, MBBS
MHA student, University of South Carolina School of Public Health,
Columbia, SC

vi. Mentoring Undergraduate Students

2021-2022 Dylan Johnson
Computer Science, University of South Carolina Honors College,
Columbia, SC

2021-2022 Zach Lewis
Biomedical Engineering, University of South Carolina Honors College,
Columbia, SC

vii. Other Student Mentorship

Visiting students and research interns

2021 Angela Bai
AMIA high school scholar

2021 Manting Zhang
BS in Biostatistics, Nanjing Medical University, Nanjing, China

2020 Xiajie Zhou
BM in Preventive Medicine, Nanjing Medical University, Nanjing, China

Junior Scholar program, South Carolina SmartState Center for Health Care Quality

2020-2021 Sigfus Kristinsson (co-mentor: Jiajia Zhang)
PhD in Communication Sciences & Disorders, University of South
Carolina Arnold School of Public Health, Columbia, SC

2020-2022 Tianchu Lyu (primary mentor: Bankole Olatosi)
PhD in Health Services Policy & Management, University of South
Carolina Arnold School of Public Health, Columbia, SC

SOAR program, School of Medicine

2022 Emily Ruggiero
MD candidate, University of South Carolina School of Medicine,
Columbia, SC

2020 Andrew Eidson
MD candidate, University of South Carolina School of Medicine,
Columbia, SC

NIH/NIAID T35 Big Data Health Science Scholar Program for Infectious Diseases (1T35AI165252)

2022 Jacob Stanley
Psychology, University of South Carolina Honors College, Columbia, SC

VIII. SERVICE

i. Ad Hoc Grant Proposal Reviewers

2022-pres. Big Data Health Science Center Pilot Project
University of South Carolina, Columbia, SC

ii. Editorial Boards

2021-pres.	Crowdsourcing Editorial Board Member Applied Clinical Informatics
2018-pres.	Editorial Board Member OAP Journal of Medical Informatics and Decision Making
2018	Assistant Editor World Congress on Medical and Health Informatics (MedInfo)

iii. Ad Hoc Manuscript Reviewers

Journals

The American Journal of Managed Care
PLOS One
International Journal of Environmental Research and Public Health
Health Systems
Medical Care
Health Informatics Journal
JCO Clinical Cancer Informatics
International Journal of Medical Informatics (IJMI)
Journal of Medical Internet Research (JMIR) Medical Informatics
Journal of Medical Internet Research (JMIR)
Computer Methods and Programs in Biomedicine
Journal of Healthcare Engineering
BMC Medical Informatics and Decision Making

Conference Proceedings

Computational Intelligence Methods for Bioinformatics and Biostatistics (CIBB)
International Workshop on Vaccine and Drug Ontology Studies (VDOS)
IEEE International Conference on Health Informatics (ICHI)
International Conference on eHealth, Telemedicine, and Social Medicine (eTELEMED)
IEEE Global Communications Conference: E-Health
World Congress on Medical and Health Informatics (MedInfo)
American Medical Informatics Association Joint Summits on Translational Science
American Medical Informatics Association Annual Symposium

iv. Scientific Program Committees

2021-pres.	Member Scientific Program Committee IEEE International Conference on Healthcare Informatics (ICHI)
2017-2019	Member Scientific Program Committee IEEE International Conference on Bioinformatics and Biomedicine (BIBM)

v. National and Regional Committees

2021-pres. Member
James E. Clyburn Health Equity Lecture Planning Committee, South Carolina

vi. University Committees

2019-2021 Member
SPARC Graduate Research Grant Review Committee
University of South Carolina, Columbia, South Carolina

vii. College/School Committees

2019-pres. Member
Diversity, Equity and Inclusion committee
Arnold School of Public Health
University of South Carolina, Columbia, South Carolina

2017-2019 Member
Research Committee
College of Applied and Natural Sciences
Louisiana Tech University, Ruston, Louisiana

2017-2018 Member
Department Head Search Committee
Louisiana Tech University, Ruston, Louisiana

viii. Department Committees

2019-pres. Member
Committee for PhD Program in Health Services Policy & Management
Department of Health Services Policy & Management
Arnold School of Public Health
University of South Carolina, Columbia, South Carolina

2017-2018 Member
Faculty Search Committee
Louisiana Tech University, Ruston, Louisiana

IX. PUBLICATIONS

* Equal contribution, † Corresponding author; senior author; first author is the student under my supervision

i. Journal Articles (refereed)

1. Lyu, T., **Liang, C.**†, Liu, J., Hung, P., Zhang, J., Campbell, B., Ghumman, N., Olatosi, B., Hikmet, N., Zhang, M., Yi, H., & Li, X. (under review). Risk for Stillbirth among Pregnant Women with SARS-CoV-2 Infection at Different Gestational Weeks: A Retrospective Analysis Using Nationwide Electronic Health Records in the United States. *JAMA*
2. Lyu, T., **Liang, C.**†, Liu, J., Campbell, B., Hung, P., Shih, Y., Ghumman, N., & Li, X. (under review). Temporal Events Detector for Pregnancy Care (TED-PC): A Rule-based Algorithm to Infer Gestational Age and Delivery Date from Electronic Health Records for Pregnant Women with and without COVID-19. *IJMI*.
3. Hung, P., Liu, J., Norregaard, C., Shih, Y., **Liang, C.**, Zhang, J., Olatosi, B., Campbell, B., & Li, X. (under review). The Associations of Racial Residential Segregation with Racial/Ethnic Disparities in Severe Maternal Morbidity and Mortality Before and During the COVID-19 Pandemic. *JAMA*

4. Liu, J., Hung, P., Liang, C., Zhang, J., Qiao, S., Campbell, B., Olatosi, B., Torres, M., Hikmet, N., & Li, X. (in print). Multilevel determinants of racial/ethnic disparities in severe maternal morbidity and mortality in the context of the COVID-19 pandemic in the United States: protocol for a concurrent triangulation, mixed methods study. *BMJ Open*
5. Deer, R. R., Rock, M. A., Vasilevsky, N., Carmody, L. C., Rando, H. M., Anzalone, A. J., Callahan, T. J., Bramante, C. T., Chute, C. G., Greene, C. S., Gagnier, J., Chu, H., Korashy, F. M., **Liang, C.**... & Robinson, P. N. (2021). Characterizing Long COVID: Deep Phenotype of a Complex Condition. *Lancet EBioMedicine*, 74, 103722.
6. Olatosi, B., Zhang, J., Weissman, S., Li, Z., Hu, J., Hikmet, N., **Liang, C.†** & Li, X. (under review). Big Data Driven Clinical Informatics & Surveillance (BDD_CIS) - A Multimodal Database Focused Clinical, Community, and Multi-omics Surveillance Plan for COVID-19: A Study Protocol.
7. Qiao, S., Li, Z., **Liang, C.**, Li, X., & Rudisill, C. (under review). Risk perception of COVID-19 and its socioeconomic correlates in the United States: A social media analysis.
8. Lyu, T.*, Hair, N.*, Yell, N., Li, Z., Qiao, S., **Liang, C.†**, & Li, X. (2021). Temporal Geospatial Analysis of COVID-19 Pre-infection Determinants of Risk in South Carolina. *International Journal of Environmental Research and Public Health*, 18(18), 9673.
9. **Liang, C.*†**, Qiao, S.*, Olatosi, B., Lyu, T., & Li, X. (2021). Emergence and Evolution of Big Data Science in HIV Research: Bibliometric Analysis of Federally Sponsored Studies 2000-2019. *International Journal of Medical Informatics*, 154, 104558.
10. Olatosi, B., Sun, X., Chen, S., Zhang, J., **Liang, C.**, Weissman, S., & Li, X. (2021). Application of machine-learning techniques in classification of HIV medical care status for people living with HIV in South Carolina. *AIDS (London, England)*, 35(Suppl 1), S19-S28.
11. Lyu, T., Qiao, S., Hair, N., **Liang, C.†**, & Li, X. (2021). Federal funding allocation on HIV/AIDS research in the United States (2008–2018): an exploratory study using Big Data. *AIDS care*, 1-7.
12. Lin, Y., Hong, Y. A., Henson, B. S.*, Stevenson, R. D.*, Hong, S.*, Lyu, T., & **Liang, C.†** (2020). Assessing Patient Experience and Healthcare Quality of Dental Care Using Patient Online Reviews in the United States: Mixed Methods Study. *Journal of Medical Internet Research*, 22(7), e18652.
13. **Liang, C.**, Zhou, S.*, Yao, B.*, Hood, D., & Gong, Y. (2019). Toward systems-centered analysis of patient safety events: improving root cause analysis by optimized incident classification and information presentation. *International Journal of Medical Informatics*, 135, 104054.
14. Amith, M., Manion, F., **Liang, C.**, Harris, M., Wang, D., He, Y., & Tao, C. (2019). Architecture and usability of OntoKeeper, an ontology evaluation tool. *BMC Medical Informatics and Decision Making*, 19(4), 1-18.
15. Hong, Y. A.*, **Liang, C.***, Radcliff, T. A., Wigfall, L. T., & Street, R. L. (2019). What Do Patients Say About Doctors Online? A Systematic Review of Studies on Patient Online Reviews. *Journal of medical Internet research*, 21(4), e12521.
16. Lin, R.*, Amith, M.*, **Liang, C.**, Duan, R., Chen, Y., & Tao, C. (2018). Visualized Emotion Ontology: a model for representing visual cues of emotions. *BMC medical informatics and decision making*, 18(2), 64.
17. **Liang, C.** (2017). Patient Safety Narratives as a Key to Promoting Quality Measurement. *J Health Med Informat*, 8(290), 2.
18. **Liang, C.**, & Gong, Y. (2016). Knowledge Representation in Patient Safety Reporting: An Ontological Approach. *Journal of Data and Information Science*, 1(2), 75-91.

ii. Conference Articles (refereed, full length, contributed presentations)

Note: Biomedical Informatics is a sub-domain of Engineering & Computer Science. Papers accepted by some refereed conference proceedings are as prestigious as refereed journal publications.

1. Lyu, T. *, Eidson, A. *, Jun, J., Zhou, X., Cui, X., & **Liang, C.**† (in press). Data Veracity of Patients and Health Consumers Reported Adverse Drug Reactions on Twitter: Key Linguistic Features, Twitter Variables, and Association Rules. In MedInfo.
2. **Liang, C.**, Miao, Q., Kang, H., Vogelsmeier, A., Hilmas, T., Wang, J., & Gong, Y. (2019). Leveraging Patient Safety Research: Efforts Made Fifteen Years Since To Err Is Human. *Studies in health technology and informatics*, 264, 983-987.
3. **Liang, C.**, Abbott, D., Hong, Y. A., Madadi, M., & White, A. (2019, July). Clustering Help-Seeking Behaviors in LGBT Online Communities: A Prospective Trial. In *International Conference on Human-Computer Interaction* (pp. 345-355). Springer, Cham.
4. Amith, M., Manion, F., **Liang, C.**, Harris, M., Wang, D., He, Y., & Tao, C. (2018, December). OntoKeeper: Semiotic-driven Ontology Evaluation Tool For Biomedical Ontologists. In *2018 IEEE International Conference on Bioinformatics and Biomedicine (BIBM)* (pp. 1614-1617). IEEE.
5. Lin, R., Amith, M. T., **Liang, C.**, & Tao, C. (2017, November). Designing an ontology for emotion-driven visual representations. In *2017 IEEE International Conference on Bioinformatics and Biomedicine (BIBM)* (pp. 1280-1283). IEEE.
6. Yao, B., Kang, H., Miao, Q., Zhou, S., **Liang, C.**, & Gong, Y. (2017). Leveraging Event Reporting Through Knowledge Support: A Knowledge-Based Approach to Promoting Patient Fall Prevention. In *MedInfo* (pp. 973-977).
7. **Liang, C.**, & Gong, Y. (2017). Automated Classification of Multi-Labeled Patient Safety Reports: A Shift from Quantity to Quality Measure. In *MedInfo* (pp. 1070-1074).
8. **Liang, C.**, & Gong, Y. (2017). Predicting Harm Scores from Patient Safety Event Reports. In *MedInfo* (pp. 1075-1079).
9. **Liang, C.***, Shan, Weiyin*, Shan, Weichao, Yang, N., & Gong, Y. (2016). A Cross-Cultural Adaptation in Reporting Perinatal Safety Events. In *International Conference on Cross-Cultural Design* (pp. 695-703). Springer International Publishing.
10. Shan, W., Shan, W., Yang, N., Zhang, H., Li, Q., Zhang, R., **Liang, C.**, & Gong, Y. (2016). Reporting Patient Safety Events: A Cross-Cultural Trial. *Nursing Informatics* 2016, 1, 820.
11. **Liang, C.**, Sun, J., & Tao, C. (2016). Semantic Web Ontology and Data Integration: A Case Study in Aiding Psychiatric Drug Repurposing. *AMIA Summits on Translational Science Proceedings*, 2016, 132.
12. **Liang, C.**, & Gong, Y. (2015). Enhancing Patient Safety Event Reporting by K-nearest Neighbor Classifier. *Context Sensitive Health Informatics: Many Places, Many Users, Many Contexts, Many Uses*, 218, 93-99.
13. **Liang, C.**, & Gong, Y. (2015, August). On Building an Ontological Knowledge Base for Managing Patient Safety Events. In *MedInfo* (pp. 202-206).
14. **Liang, C.**, & Gong, Y. (2015, August). Improving Knowledge Management in Patient Safety Reporting: A Semantic Web Ontology Approach. In *International Conference on Human Interface and the Management of Information* (pp. 118-128). Springer, Cham.
15. **Liang, C.**, Sun, Y., & Wang, H. (2014). Visualizing Theory of Mind with Multiple Intrinsic Frames of Reference. In *Annual Meeting of the Cognitive Science Society*.

16. Zhu, Y., **Liang, C.**, Wang, H., & Liu, X. (2012). Modules of Cognitive Control Network: A Computational Modeling Approach. In 18th Annual Meeting of the Organization for Human Brain Mapping.
17. **Liang, C.**, Zhu, Y., & Huang, X. (2011). Impact of Aging on Emotional Prosody Recognition. In International Society for Social Neuroscience Symposium.

iii. Conference Abstracts & Short Papers (refereed, contributed presentations, selected)

1. Tianchu, L. & **Liang, C.†** (in press). Predict Pregnancy Outcomes in the COVID-19 Pandemic Using Electronic Health Records and Machine Learning Approach. IEEE International Conference on Health Informatics.
2. Hung, P., Liu, J., Shih, Y., Norregaard, C., Zhang, J., **Liang, C.**, Olatosi, B., Campbell, B., & Li, X. (2022). The associations of racial residential segregation on racial/ethnic disparities in severe maternal morbidity and mortality before and during the COVID-19 pandemic. AcademyHealth Annual Research Meeting 2022: Washington, DC, United States.
3. Lyu, T., **Liang, C.†**, Liu, J., Campbell B., Hung, P., Li, X. (2022) A Rule-based Algorithm to Infer Gestational Age Using Electronic Health Records: A Pilot Study. National Big Data Health Science Conference.
4. Bai, A., Lyu, T., Liu, J., Campbell, B., **Liang, C.†**, & Li, X. (2021). Miscarriage in Pregnant Women with COVID-19: EHR Integration and Statistical Modeling Using N3C. In AMIA Annual Symposium.
5. Olatosi, B., Weissman, S., Li, X., Zhang, J., Sun, X., Moseley, J., Waddell, A., & **Liang, C.** (2021). Applying chart abstractions to inform predicting HIV medical care status using big data science: Findings from South Carolina The 149th APHA Annual Meeting, Denver, CO.
6. Qiao, S., Li, Z., **Liang, C.**, Li, X., Rudisill, C. (2021). Evolving risk perceptions of COVID-19 and socioeconomic correlates in the United States: A social media analysis. The 149th APHA Annual Meeting, Denver, CO.
7. **Liang, C.**, Qiao, S., Olatosi, B., Lyu, T., & Li, X. (2021). Emergence and Evolution of Big Data Analytics in HIV Research: Bibliometric Analysis of Federally Sponsored Studies in HIV 2000-2019. In National Big Data Health Science Conference.
8. Lyu, T., Eidson, A., Jun, J., Zhou, X., Cui, X., & **Liang, C.†** (2021). Classification, Key Linguistic Features, and Twitter Variables towards Automated Veracity-checking for Adverse Drug Reactions on Twitter. In National Big Data Health Science Conference.
9. Olatosi, B., Sun, X., Zhang, J., **Liang, C.**, & Li, X. (2020). Predicting Retention-in-care for PLWH in South Carolina by Integration of Clinical Care and Social Care Data and Machine Learning. In AMIA Annual Symposium.
10. Zhou, X., Lyu, T., Jun, J., Cui, X., Eidson, A., & **Liang, C.†** (2020). Exploratory Analysis of Data Veracity Problem for Consumer Reported Adverse Drug Reaction Events on Social Media. In AMIA Annual Symposium.
11. Lin, Y., Gage, C., Henson, B., Mirfarsi, S., & **Liang, C.†** (2020). Discomfort, Negative Sentiments, and Adverse Reactions During Orthodontic Treatment. In International Association for Dental Research Annual Meeting.
12. Lin, Y., Hong, S., & **Liang, C.†** (2019, July). Semantic Analysis of Online Dentist Review: Toward Assessing Safety and Quality of Dental Care. In International Conference on Human-Computer Interaction (pp. 488-494). Springer, Cham.
13. Amith, M., Lin, R., **Liang, C.**, Gong, Y., & Tao, C. (2018, July). VEO-Engine: Interfacing and Reasoning with an Emotion Ontology for Device Visual Expression. In International Conference on Human-Computer Interaction (pp. 349-355). Springer, Cham.

14. **Liang, C.** & Gong, Y. (2014). Developing a Patient Safety Ontology for Knowledge Management, Data Integration, and Decision Making. In Proceedings of International Conference on Biomedical Ontologies. (pp. 70-72).
15. **Liang, C.**, Zhu, Y., Liu, X. & Wang, H. (2013) Toward a neuro-computational model of cognitive control. In Computational Neuroscience Symposium.

X. INVITED PRESENTATIONS

1. Temporal Events Detector for Pregnancy Care (TED-PC): A Rule-based Algorithm to Infer Gestational Age and Delivery Date from Electronic Health Records for Pregnant Women with and without COVID-19. (2022). National COVID Cohort Collaborative (N3C) community forum.
2. Advancing Patient Safety Research through Integrated Informatics Methods. (2020). Collaborative Data Conference: The Role of Data and Advanced Analytics in Transforming Healthcare, Columbia VA Health Care System, Columbia, SC.