

Yonghui Wu, Ph.D.

Curriculum Vitae

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EDUCATION

- 2010 **Ph.D. in Computer Application Technology** *Harbin Institute of Technology, Harbin, China.*
- 2005 **M.S. in Computer Science and Technology** *Harbin Institute of Technology, Harbin, China.*
- 2003 **B.S. in Computer Science and Technology** *Harbin University of Science and Technology, Harbin China.*

ACADEMIC APPOINTMENTS

- 2017–now **Assistant Professor** *Department of Health Outcomes & Biomedical Informatics, College of Medicine, University of Florida, Gainesville, FL.*
- 2016–2017 **Research Assistant Professor** *School of Biomedical Informatics, The University of Texas Health Science Center at Houston, Houston TX.*
- 2014–2015 **Research Scientist** *School of Biomedical Informatics, The University of Texas Health Science Center at Houston, Houston TX.*
- 2012–2014 **Post-doc Research Fellow** *School of Biomedical Informatics, The University of Texas Health Science Center at Houston, Houston TX.*
- 2010–2012 **Post-doc Research Fellow** *Department of Biomedical Informatics, Vanderbilt University, Nashville TN.*

PROFESSIONAL ACTIVITIES

Program Committee

- 2016 *SEPDA, BIBM 2016, Shenzhen, China.*
- 2012–2016 *ICIBM, International Conference on Intelligent Biology and Medicine, Nashville TN, US.*
- 2014 *ICBO, International Conference on Biomedical Ontology, Workshop on Vaccine and Drug Ontology Studies, Houston TX, US.*

Award Committee

- 2013 *ICIBM International Conference on Intelligent Biology and Medicine, Nashville TN, US.*

Journal Reviewer

Journal of the American Medical Informatics Association (JAMIA), Journal of Medical Internet Research (JMIR), Journal of Biomedical Informatics (JBI), Pattern Recognition (PR), Neurocomputing, Neural Computing and Applications, PLoS ONE, BMC Medical Informatics and Decision Making, *DATABASE*, International Journal of Medical Informatics, International Journal of Data Mining and Bioinformatics, Computers in Biology and Medicine.

Conference Reviewer

AMIA Fall Symposium, CRI, TBI; IEEE International Conference on Bioinformatics and Biomedicine, BIBM; World Congress on Medical and Health Informatics (*MedInfo*); International Conference on Intelligent Biology and Medicine (*ICIBM*); International Conference on Intelligent Computing (*ICIC*).

HONORS/AWARDS

- 2018 **Top-ranked (#2) "end-to-end system" to identify medications, adverse drug events and their relations** *2018 N2C2 challenge*.
- 2018 **Top-ranked (#3) "medications and adverse drug events concepts recognition" system** *2017 MADE challenge*.
- 2017 **One of the best articles from the literature in the Natural Language Processing subfield of medical informatics** *International Medical Informatics Association (IMIA), 2017*.
- 2015 **Best performed "chemical-induced disease relation extraction" system** *2015 BioCreative V*.
- 2014 **Top-ranked (#1) disorder mention recognition system** *2014 Semantic Evaluation (SemEval) challenge, Task 7 - Analysis of Clinical Text*.
- 2013 **Top-ranked (#1) clinical abbreviation disambiguation system** *2013 ShARe/CLEF eHealth Shared Tasks in Clinical NLP*.
- 2013 **Top-scoring predictions for the NIEHS-NCATS-UNC DREAM Toxicogenetics Challenge leaderboard**, Team "UT_CCB".
- 2012 **Top-ranked (#1) "temporal relation extraction" system** *2012 i2b2 Clinical NLP challenge*.
- 2012 **Finalist of best paper award (Co-first author), AMIA Translational Bioinformatics Summit**.
 - Large-scale prediction of adverse drug reactions using chemical, biological, and phenotypic properties of drugs. *JAMIA*.

TEACHING EXPERIENCES

- 2019 **Lecture, HI6300 - GMS6856: Introduction to Biomedical Natural Language Processing**. University of Florida, College of Medicine.

INVITED PRESENTATIONS

- 2017 **AMIA annual symposium**, *Clinical Named Entity Recognition Using Deep Learning Models* Washington DC, US.
- 2015 **AMIA annual symposium**, *A Study of Neural Word Embeddings for Named Entity Recognition in Clinical Text* San Francisco, US.
- 2013 **AMIA annual symposium**, *Building a Large Clinical Abbreviation Sense Inventory from Discharge Summaries* Washington DC, US.
- 2013 **7th Workshop on Data and text mining in biomedical informatics**, *A prototype application for real-time recognition and disambiguation of clinical abbreviations* San Francisco, US.
- 2012 **AMIA annual symposium** *A comparative study of current clinical natural language processing systems on handling abbreviations in discharge summaries* Chicago Illinois, US.
- 2012 **ICIBM** *Identifying the status of genetic lesions in cancer clinical trial documents using machine learning* Nashville TN, US.
- 2011 **AMIA annual symposium** *Detecting Abbreviations in Discharge Summaries using Machine Learning Methods* Washington DC, US.

RESEARCH PROGRAM

- 2019 - 2021 **NIA R21AG062884**, *PI – Ingibjargardottir-Bjarnadottir, Lucero*. Advancing Interdisciplinary Science of Aging through Identification of Iatrogenic Complications: The UF EHR Clinical Data Infrastructure for Enhanced Patient Safety among the Elderly (UF-ECLIPSE), Role:Co-Investigator .
- 2019 - 2021 **FL DEPT OF HLTH**, *PI – Demetrius Maraganore*. Utilizing Data from the Electronic Medical Record to Predict Alzheimer's and Dementia Risk., Role:Co-Investigator .
- 2018 - 2019 **CTSI Pilot Award**, *PI – Yan Gong*. Cancer therapy induced cardiotoxicity in the OneFlorida Consortium., Role:Co-Investigator .
- 2013 - 2017 **Cancer Prevention & Research Institute of Texas R1307**, *PI – Hua Xu*. CPRIT Rising Stars Award - Repurposing Existing Drugs for Cancer Treatment using Electronic Health Records, Role:Co-Investigator .
- 2014 - 2017 **NLM 2R01LM010681-05**, *PI – Hua Xu*. Interactive machine learning methods for clinical natural language processing, Role: Co-Investigator.
- 2013 - 2014 **SHARP ONC 90TR000401**, *PI - Jiajie Zhang*. National Center for Cognitive Informatics and Decision Making in Healthcare SHARP, Role: Postdoc Research Fellow.
- 2010 - 2014 **NLM R01LM010681**, *PI - Hua Xu*. Real-time Disambiguation of Abbreviations in Clinical Notes, Role: Postdoc Research Fellow.

RESEARCH INTERESTS

Clinical Natural Language Processing (NLP), Machine Learning, Text/Data Mining, Pharmacovigilance.

PUBLICATIONS

Peer Reviewed Articles – Journal. († – Corresponding Author)

- [1] Yang X, Bian J, Fang R, Bjarnadottir RI, Hogan WR1, **Wu Y**[†] Identifying relations of medications with adverse drug events using recurrent convolutional neural networks and gradient boosting. *J Am Med Inform Assoc.* August 2019.
- [2] Xiang Y, Xu J, Si Y, Li Z, Rasmy L, Zhou Y, Tiryaki F, Li F, Zhang Y, **Wu Y**, Jiang X, Zheng W, Zhi D, Tao C, Xu H. Time-sensitive clinical concept embeddings learned from large electronic health records. *BMC medical informatics and decision making.* 2019;19(2).
- [3] **Wu Y**, Warner JL, Wang L, Jiang M, Xu J, Chen QX, Nian H, Dai Q, Du X, Yang P, Denny JC, Liu H, Xu H. Discovery of non-Cancer Drug Effects on Survival in Electronic Health Records of Cancer Patients: a New Paradigm for Drug Repurposing. *JCO Clin Cancer Inform.* 2019;3:1-9. doi:10.1200/CCI.19.00001.
- [4] Lo-Ciganic W, Huang JL, Zhang HH, Weiss JC, **Wu Y**, Kwoh CK, Donohue JM, Cochran G, Gordon AJ, Malone DC, Kuza CC, Gellad WF. Evaluation of machine-learning algorithms for predicting opioid overdose risk among Medicare beneficiaries with opioid prescription. *JAMA Netw Open.* 2019;2(3):e190968. DOI:10.1001/jamanetworkopen.2019.0968.
- [5] Yang X, Bian J, Gong Y, Hogan WR, **Wu Y**[†]. MADEx: A System for Detecting Medications, Adverse Drug Events, and Their Relations from Clinical Notes. *Drug Safety.* 2019:1-11. doi:10.1007/s40264-018-0761-0
- [6] Bekhet L, **Wu Y**, Wang N, Geng X, Zheng W, Wang F, Wu H, Xu H, Zhi D. A study of Generalizability of Recurrent Neural Network-Based Predictive Models for Heart Failure Onset Risk using a Large and Heterogeneous EHR Data set. *J Biomed Inform.* 2018;84:11-16. doi:10.1016/j.jbi.2018.06.011
- [7] Miao S, Xu T, **Wu Y**, Xie H, Wang J, Jing S, Zhang Y, Zhang X, Yang Y, Zhang X, Shan T. Extraction of BI-RADS findings from breast ultrasound reports in Chinese using deep learning approaches. *International journal of medical informatics.* 2018;119:17-21.
- [8] Lee H-J, **Wu Y**, Zhang Y, Xu J, Xu H, Roberts K. A hybrid approach to automatic de-identification of psychiatric notes. *J Biomed Inform.* 2017;75S:S19-S27. doi:10.1016/j.jbi.2017.06.0062017
- [9] Zhang Y, Zhang O, **Wu Y**, Lee HJ, Xu J, Xu H, Roberts K. Psychiatric symptom recognition without labeled data using distributional representations of phrases and on-line knowledge. *J Biomed Inform.* 2017;75S:S129-S37. doi:10.1016/j.jbi.2017.06.0062017
- [10] Huang J, Duan R, Hubbard RA, **Wu Y**, Moore J, Xu H, Chen Y. PIE: A prior knowledge guided integrated likelihood estimation method for bias reduction in association studies using electronic health records data. *J Am Med Inform Assoc.* December 2017. doi:10.1093/jamia/ocx137
- [11] Soysal E, Wang J, Jiang M, **Wu Y**, Pakhomov S, Liu H, and Xu H. CLAMP – a toolkit for efficiently building customized clinical natural language processing pipelines. *J Am Med Inform Assoc.* November 2017. doi:10.1093/jamia/ocx132
- [12] Duke JD, Ryan PB, Suchard MA, Hripcsak G, Jin P, Reich C, Schwalm MS, Khoma Y, **Wu Y**, Xu H, Shah N, Banda J, Schuemie M. Risk of Angioedema Associated with Levetiracetam Use: Findings of the Observational Health Data Sciences and Informatics Research Network. *Epilepsia* 2017 Aug;58(8):e101-e106. doi: 10.1111/epi.13828

- [13] **Wu Y**, Denny JC, Trent Rosenbloom S, Miller RA, Giuse DA, Wang L, Blanquicett C, Soysal E, Xu J, Xu H. A long journey to short abbreviations: developing an open-source framework for clinical abbreviation recognition and disambiguation (CARD). *J Am Med Inform Assoc* 2016 August. doi: 10.1093/jamia/ocw109.
- [14] Chen H, Zhang Y, Wu D, Gong C, Pan Q, Dong X, **Wu Y**, Zhang K, Wang S, Lei J, Xu H. Comorbidity in adult patients hospitalized with type 2 diabetes in Northeast China: an analysis of hospital discharge data from 2002 to 2013. *BioMed Research International* 2016. DOI:10.1155/2016/1671965.
- [15] Xu J, Lee HJ, Zeng J, **Wu Y**, Zhang Y, Huang LC, Johnson A, Holla V, Bailey AM, Cohen T, Meric-Bernstam F, Bernstam EV, Xu H. Extracting genetic alteration information for personalized cancer therapy from ClinicalTrials.gov. *J Am Med Inform Assoc* 2016 Jul;23(4):750-7.
- [16] Xu J, **Wu Y**, Zhang Y, Wang J, Lee HJ, Xu H. CD-REST: a system for extracting chemical-induced disease relation in literature. Database: The Journal of Biological Databases and Curation. *Database* 2016;2016:baw036. doi:10.1093/database/baw036.
- [17] Zhang Y, Xu J, Chen H, Wang J, **Wu Y**, Prakasam M, Xu H. Chemical named entity recognition in patents by domain knowledge and unsupervised feature learning. *Database* 2016. doi: 10.1093/database/baw049.
- [18] **Wu Y**, Jiang M, Lei J, Xu H. Named Entity Recognition in Chinese Clinical Text Using Deep Neural Network. *Studies in health technology and informatics*, 2015, 216:624-8.
- [19] Sun J, Zhao M, Jia P, Wang L, **Wu Y**, Iverson C, Zhou Y, Bowton E, Roden DM, Denny JC, Aldrich MC, Xu H, Zhao Z. Deciphering signaling pathway networks to understand the molecular mechanisms of metformin. *PLoS Computational Biology* 2015, 11(6):e1004202.
- [20] **Wu Y**, Denny JC, Rosenbloom ST, Miller RA, Giuse DA, Song M, Xu H. A Preliminary Study of Clinical Abbreviation Disambiguation in Real Time. *Appl Clin Inform* 2015, 6(2), 364-374.
- [21] Tang B, Feng Y, Wang X, **Wu Y**, Zhang Y, Jiang M, Wang J, Xu H. A comparison of conditional random fields and structured support vector machines for chemical entity recognition in biomedical literature. *J Cheminform* 2015, 7(Suppl 1):S8.
- [22] Zheng H, Wang H, Xu H, **Wu Y**, Zhao Z, Azuaje F. Linking biochemical pathways and networks to adverse drug reactions. *IEEE Trans Nanobioscience* 2013: 131-137.
- [23] **Wu Y**, Lei J, Wei WQ, Tang B, Denny JC, Rosenbloom ST, Miller RA, Giuse DA, Zheng K, Xu H. Analyzing Differences between Chinese and English Clinical Text: A Cross-Institution Comparison of Discharge Summaries in Two Languages. *Stud Health Technol Inform* 2013; 192:662-6.
- [24] Tang B, Cao H, **Wu Y**, Jiang M, Xu H. Recognizing clinical entities in hospital discharge summaries using Structural Support Vector Machines with word representation features. *BMC Medical Informatics and Decision Making* 2013; 13(Suppl 1):S1.
- [25] Tang B, **Wu Y**, Jiang M, Chen Y, Denny JC, Xu H. A hybrid system for temporal information extraction from clinical text. *J Am Med Inform Assoc* 2013 Sep-Oct;20(5):828-35.
- [26] **Wu Y**, Levy MA, Micheel CM, Yeh P, Tang B, Cantrell MJ, Cooreman SM, Xu H. Identifying the status of genetic lesions in cancer clinical trial documents using machine learning. *BMC Genomics* 2012;13(Suppl 8):S21.

- [27] Liu M, **Wu Y**, Chen Y, Sun J, Zhao Z, Chen XW, Matheny ME, Xu H. Large-scale prediction of adverse drug reactions using chemical, biological, and phenotypic properties of drugs. *J Am Med Inform Assoc* 2012 Jun 1;19(e1):e28-e35, **co-first author**.
- [28] Xu H, **Wu Y**, Elhadad N, Stetson PD, Friedman C. A new clustering method for detecting rare senses of abbreviations in clinical notes. *J Biomed Inform* 2012 Dec;45(6):1075-83.
- [29] Sun J, **Wu Y**, Xu H, Zhao Z. DTome: a web-based tool for drug-target interactome construction. *BMC Bioinformatics* 2012;13(Suppl 9):S7.
- [30] **Wu Y**, Wang X, Ding Y, Xu J. Adaptive On-line Web Topic Detection Method for Web News Recommendation System. *Acta Sinica Electronica* 2010;38(11):2620-24.
- [31] **Wu Y**, Ding Y, Wang X, Xu J. On-line Hot Topic Recommendation Using Tolerance Rough Set Based Topic Clustering. *Journal of Computers* 2010;5(4):549-56.
- [32] **Wu Y**, Ding Y, Wang X, Xu J. Design and Implementation of a C/S Structured Distributed Multi-thread Crawler Using ACE and PVFS. *Journal of Computational Information System* 2008;4(3):883-90.
- [33] Xu J, Ding Y, Wang X, and **Wu Y**. Bayesian Approaches to Genre Identification of Chinese Finance Text. *Journal of Computational Information System*

Peer Reviewed Articles – Conference

- [34] Yang X, Bian J, **Wu Y**[†]. Detecting Medications and Adverse Drug Events in Clinical Notes Using Recurrent Neural Networks. *International Workshop on Medication and Adverse Drug Event Detection*. 2018:1-6. <http://proceedings.mlr.press/v90/yang18a.html>
- [35] **Wu Y**, Yang X, Bian J, Guo Y, Xu H, Hogan W. Combine Factual Medical Knowledge and Distributed Word Representation to Improve Clinical Named Entity Recognition. *AMIA Annu Symp Proc* 2018.
- [36] Zhao Y, Guo Y, He X, **Wu Y**, Yang X, Bian J. Assessing Mental Health Signals among Sexual and Gender Minorities using Twitter Data. *International Workshop on Semantics of Mental Health* 2018.
- [37] Lee HJ, Zhang Y, Xu J, Moon S, Wang J, **Wu Y**, Xu H. UTHHealth at SemEval-2016 Task 12: an End-to-End System for Temporal Information Extraction from Clinical Notes. *SemEval-2016* 1292-1297, San Diego, California, June, 2016
- [38] **Wu Y**, Xu J, Jiang M, Zhang Y, Xu H. A Study of Neural Word Embeddings for Named Entity Recognition in Clinical Text. *AMIA Annu Symp Proc*, 2015:1326-33.
- [39] **Wu Y**, Xu J, Zhang Y, Xu H. Clinical Abbreviation Disambiguation Using Neural Word Embeddings. *ACL-IJCNLP 2015*, 2015:171.
- [40] Zhang Y, Xu J, Wang J, **Wu Y**, Parkasam M, Xu H. UTH-CCB@BioCreative V Track 2: Recognizing Chemical Entities in Patents. *Proceedings of the Fifth BioCreative Challenge Evaluation Workshop* 2015:147-148.
- [41] Xu J, **Wu Y**, Zhang Y, Wang J, Liu R, Wei Q, Xu H. UTH-CCB@BioCreative V CDR Task: Identifying Chemical-induced Disease Relations in Biomedical Text. *Proceedings of the Fifth BioCreative Challenge Evaluation Workshop* 2015:254-259.
- [42] Xu J, Zhang Y, **Wu Y**, Wang J, Dong X, Xu H. Citation Sentiment Analysis in Clinical Trial Papers. *AMIA Annu Symp Proc*.

- [43] Xu J, Zhang Y, Wang J, **Wu Y**, Jiang M, Soysal E, Xu H. UTH-CCB: The Participation of the SemEval 2015 Challenge —Task 14. *Proceedings of the 9th International Workshop on Semantic Evaluation (SemEval 2015)* 2015:311-314.
- [44] Zeng J, **Wu Y**, Balley, A, Johnson A, Halla V, Bernstam EV, Xu H, Meric-Bernstam F. Adapting a natural language processing tool to facilitate clinical trial curation for personalized cancer therapy. In *AMIA Translational Bioinformatics Summit* 2014.
- [45] **Wu Y**, Denny JC, Rosenbloom ST, Miller RA, Giuse DA, Song M, Xu H. A prototype application for real-time recognition and disambiguation of clinical abbreviations . In *CIKM, Proceedings of the 7th international workshop on Data and text mining in biomedical informatics (DTMBIO '13)* 2013.
- [46] Jiang M, **Wu Y**, Shah A, Priyanka P, Denny JC, Xu H. Extracting and standardizing medication information in clinical text - the MedEx-UIMA system. *AMIA Summit on Clinical Research Informatics (CRI)* 2014.
- [47] **Wu Y**, Tang B, Jiang M, Moon S, Denny JC, Xu H. Clinical Acronym/Abbreviation Normalization using a Hybrid Approach. *Proceedings of CLEF 2013 Evaluation Labs and Workshop* 2013.
- [48] Zhang Y, Wang J, Tang B, **Wu Y**, Jiang M, Chen Y, Xu H. UTH_CCB: A Report for SemEval 2014-Task 7 Analysis of Clinical Text. *SemEval Proc* 2014.
- [49] Tang B, Wang X, **Wu Y**, Jiang M, Wang J, Xu H. Recognizing Chemical Entities in Biomedical Literature using Conditional Random Fields and Structured Support Vector Machines. *BioCreative Challenge Evaluation Workshop* 2013; 2:70-4.
- [50] Tang B, **Wu Y**, Jiang M, Xu H. Recognizing and Encoding Disorder Concepts in Clinical Text using Machine Learning and Vector Space Model. *Proceedings of CLEF 2013 Evaluation Labs and Workshop* 2013.
- [51] Tang B, Cao H, **Wu Y**, Jiang M, Xu H. Clinical Entity Recognition using Structural Support Vector Machines with Rich Features. *Proceedings of the ACM sixth international workshop on Data and text mining in biomedical informatics* 2012:13-20.
- [52] **Wu Y**, Denny JC, Rosenbloom ST, Miller RA, Giuse DA, Xu H. A comparative study of current clinical natural language processing systems on handling abbreviations in discharge summaries. *AMIA Annu Symp Proc* 2012:997-1003.
- [53] **Wu Y**, Liu M, Zheng WJ, Zhao Z, Xu H. Ranking gene-drug relationships in biomedical literature using latent dirichlet allocation. *Pac Symp Biocomput* 2012.
- [54] Liu M, Matheny ME, **Wu Y**, ERM Hinz , Denny JC, Schildcrout JS, Miller RA, Xu H. Detecting Adverse Drug Reactions Using Inpatient Medication Orders and Laboratory Tests Data, *IEEE Second International Conference on Healthcare Informatics, Imaging and Systems Biology (HISB)* 2012.
- [55] **Wu Y**, Rosenbloom ST, Denny JC, Miller RA, Mani S, Giuse DA, Xu H. Detecting Abbreviations in Discharge Summaries using Machine Learning Methods. *AMIA Annu Symp Proc* 2011:1541-9.
- [56] **Wu Y**, Wang X, Ding Y, Xu J. Topic based Automatic News Recommendation Using Topic Model and Affinity Propagation. *IEEE ICMLC* 2010:1299–1304.
- [57] **Wu Y**, Ding Y, Wang X, Xu J. A Comparative Study of Topic Models for Topic Clustering of Chinese Web News. *IEEE, International Conference on Computer Science and Information Technology* 2010.

- [58] **Wu Y**, Ding Y, Wang X, and Xu J. Topic Detection by Topic Model Induced Distance Using Biased Initiation. *Lecture Notes in Computer Science/AST* 2010:310–323.
- [59] Guo H, Chen Q, Wang X, Wang Z, **Wu Y**. STRank: A SiteRank algorithm using semantic relevance and time frequency. *IEEE Systems, Man and Cybernetics* 2009:4876-4881.
- [60] Xu J, Ding Y, Wang X, and **Wu Y**. Genre identification of Chinese finance text using machine learning method. *Proceedings of the 2008 IEEE International Conference on Systems, Man, and Cybernetics, Singapore* October 2008.
- [61] Xiao Q, Zhou S, Xing Y, Dai G, **Wu Y**. Wireless pre-paid Phone cards distributing system based on SMS. *IEEE SoftCOM* 2007.
- [62] Ding Y, Wang X, Lin L, Zhang Q, **Wu Y**. The Design and Implementation of The Crawler-Inar. *IEEE ICMLC* 2006.

Abstracts/Posters:

- [1] Waheed N, Mahmoud A, Shah C, **Wu Y**, March K, Pepine C, Gong Y. GLOBAL LONGITUDINAL STRAIN AMONG PATIENTS WITH IMMUNE CHECKPOINT INHIBITOR-INDUCED CARDIOTOXICITY: A CASE SERIES. *Journal of the American College of Cardiology* 2019;73(9Sup).
- [2] Shah C, Waheed N, Boyd C, March K, **Wu Y**, Gong Y, Moreb J. Cardiotoxicity Due to Proteasome Inhibitors: More Likely With Immunomodulators or Anthracyclines. *Circulation* 2018;138.
- [3] Waheed N, Shah C, Boyd C, March K, Moreb J, **Wu Y**, Gong Y. Cardiotoxicity Associated With Immune Checkpoint Inhibitors: A Single Center Experience. *Circulation* 2018;138.
- [4] **Wu Y**, Xu J, Zhang Y, Xu H. What Can Neural Networks Learn from Unlabeled Clinical Narratives?. *AMIA symposium* 2016.
- [5] **Wu Y**, Cohen T, DeSantis SM, Iyengar S, Hoot NR, Soysal E, Tao C, Jiang M, Xu H. Mining Patient Claim Data To Detect Drug Signals That Can Reduce The Risk Of Barrett's Esophagus Patient Developing Esophageal Adenocarcinoma.. *ISPOR* 2016.
- [6] Zhang Y, **Wu Y**, Lee HJ, Xu J, Xu H, Roberts K. UTH: An unsupervised framework for psychiatric symptom recognition using distributed representations and seed terms. *12b2 CEGS N-GRID challenge*, 2016.
- [7] Xu J, **Wu Y**, Zhang Y, Lee HJ, Xu H, Roberts K. UTH: Determining Symptom Severity of Psychiatric Patients based on Initial Psychiatric Evaluation. *12b2 CEGS N-GRID challenge*, 2016.
- [8] Lee HJ, **Wu Y**, Zhang Y, Xu J, Xu H, Roberts K. UTH: A hybrid approach for automatic de-identification of psychiatric notes. *12b2 CEGS N-GRID challenge*, 2016.
- [9] **Wu Y**, Wright A, Xu H, McCoy AB, Sittig DF. A Computable Problem-Medication Knowledgebase based on Electronic Health Records. *AMIA Annu Symp Proc* 2014, Poster paper.
- [10] Zhang Y, Tang B, Jiang M, Wang J, **Wu Y**, Xu H. Domain Adaptation for Semantic Role Labeling of Clinical Text. *AMIA Annu Symp Proc* 2014, Poster paper.
- [11] **Wu Y**, Rosenbloom ST, Denny JC, Miller RA, Giuse D, Xu H. Building a Large Clinical Abbreviation Sense Inventory from Discharge Summaries. *AMIA Annu Symp Proc* 2013, Podium paper with oral presentation.

- [12] Tang B, **Wu Y**, Jiang M, Xu H. Clinical Entity Recognition Using Structural Support Vector Machines. *AMIA Annu Symp Proc* 2012, Poster paper.
- [13] Shah A, Jiang M, **Wu Y**, Denny JC, Xu H. MedEx-UIMA - An Open-Source System for Medication Information Extraction from Clinical Text. *AMIA Annu Symp Proc* 2012, Poster paper.