Changye Li

Curriculum Vitae
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RESEARCH INTEREST

My primary focus lies in advancing the field of natural language processing (NLP) by integrating explainable methods, thereby empowering healthcare professionals and cross-disciplinary researchers to gain valuable insights and confidently interpret the decisions made by NLP models.

EDUCATION

Ph.D. Institute of Health Informatics, University of Minnesota, 2024 (expected)

Dissertation: *Uncovering the Potential of Large Language Models for the Detection of Cognitive Impairment through Explainable Approaches*

Committee: Serguei Pakhomov (chair), Genevieve Melton-Meaux, Gyorgy Simon, Trevor Cohen, Maria Gini

M.S. Computer Science and Engineering, University of Minnesota, 2018

B.A. School of Statistics, University of Minnesota, 2016

B.S. Department of Economics, University of Minnesota 2016

PROFESSIONAL EXPERIENCE

2023 Research Intern, Truveta, Bellevue, WA

2017 Digital Data Analyst Intern, Padilla, Minneapolis, MN

RESEARCH EXPERIENCE

2020-present College of Pharmacy, University of Minnesota

2019-2020 Carlson School of Management, University of Minnesota

2017-2018 Department of Computer Science and Engineering, University of Minnesota

PUBLICATIONS

Peer Reviewed Journal Articles

Pradhan, P. M., **Li, C**., Shen, Z., & Remucal, M. J. (2022). Comparison of adverse events between COVID-19 and Flu vaccines. *Public Health Review* 5(1).

Guo, Y., **Li, C.**, Roan, C., Pakhomov, S., & Cohen, T. (2021). Crossing the "Cookie Theft" corpus chasm: applying what BERT learns from outside data to the ADReSS challenge dementia detection task. *Frontiers in Computer Science*, 3, 642517.

Conference Proceedings

Li, C., Xu, W., Cohen, T., Michalowski, M., & Pakhomov, S. (2023). TRESTLE: Toolkit for Reproducible Execution of Speech, Text and Language Experiments. In *American Medical Informatics Association (AMIA) Informatics Summit*.

Li, C., Knopman, D., Xu, W., Cohen, T., & Pakhomov, S. (2022). GPT-D: Inducing Dementia-related Linguistic Anomalies by Deliberate Degradation of Artificial Neural Language Models. In *Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics (ACL)* (pp. 1866-1877.) (acceptance rate: 20.8%)

Li, C., Cohen. T, & Pakhomov, S. (2022). The Far Side of Failure: Investigating the Impact of Speech Recognition Errors on Subsequent Dementia Classification. In *Machine Learning for Health (ML4H).*

Li, Y., **Li, C**., Bart, G., & Zhang, R. (2020). Identifying and predicting risk factors of potential problem opioid use in chronic noncancer pain patients using electronic health records. In *AMIA Annual Summit*.

Li, C., Levonian, Z., Ma, H., & Yarosh, S. (2018). Condition Unknown: Predicting Patients' Health Conditions in an Online Health Community. In A*CM Conference on Computer Supported Cooperative Work and Social Computing (CSCW)* (pp. 281-284). (acceptance rate 27.3%)

In Preparation

Li, C,. Solinsky, J., Cohen, T., & Pakhomov, S. A Curious Case of Retrogenesis in Language: Comparison between Language Patterns Observed in Dementia Patients and Young Children. (in submission, *Cortex*)

Li, C., Xu, W., Cohen, T., & Pakhomov, S. Useful Blunders: Can Automated Speech Recognition Errors Improve Downstream Dementia Classification? (under review, *Journal of Biomedical Informatics*).

CONFERENCE ACTIVITY

Presentation

Xu, W., **Li, C.**, Cohen, T., & Pakhomov, S. (2023, Mar.) Task-agnostic Linguistic Detection of Alzheimer's Disease Dementia with Time-series Augmented Representations for Detection of Incoherent Speech (TARDIS). In *AMIA Informatics Summit*

Li, C., Xu, W., Cohen, T., & Pakhomov, S. (2023, Mar.). Investigating the Impact of Speech Recognition Errors on Subsequent Dementia Classification. In *AMIA Informatics Summit*

Services

Junior chair Research roundtable, *Machine Learning for Health (ML4H) 2022,* Nov. 2022

Data hackallenge organizer, The Hackallenge (hackthon + challenge) for detecting Dementia from text and audio data, data challenge organizer. 6th International Workshop on Health Intelligence, *36th Association for the Advancement of Artificial Intelligence Conference on Artificial Intelligence*, March 2022

TEACHING EXPERIENCE

University of Minnesota, Teaching Assistant

Python Programming Essentials for the Health Sciences (fall 2022)

Foundations of Biomedical Natural Language Processing (spring 2021)

University of Minnesota, Student Group, Sole Instructor

Introduction to GitHub (fall 2022)

Introduction to Python (spring 2022, fall 2021)

PROFESSIONAL SERVICE

Peer Review

AMIA Informatics Summit, 2023

AMIA Annual Symposium, 2023

ML4H 2023