Yue Guo

Contact Information

School of Information Sciences
University of Illinois Urbana-Champaign (UIUC)
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https://yueguo-50.github.io/

Research Highlight

With my combination of **medical training** (M.D. equivalent) and **methodological expertise in NLP**, I am uniquely positioned to pursue AI and data science research to address real-world problems in healthcare. Specifically, I focus on **promoting the health information accessibility** and have made progress in dataset, evaluation, and algorithm. I further investigate how we can **personalize the health information delivery**.

Employment Experience

Assistant Professor   2024 - present
UIUC School of Information Sciences

Assistant Professor (affiliate)   2024 - present
UIUC Siebel School of Computing and Data Science

Research Assistant with Trevor Cohen   2019 - 2024
University of Washington School of Medicine

Research Intern with Tal August   Summer 2023
Allen Institute for Artificial Intelligence (AI2) - Sementic Scholar

Research Intern with Zebo Li and Taihua He   Summer 2022
Google YouTube

Research Intern with Kyle Williams   Summer 2021
Microsoft EmpowerMD

Research Assistant with William Lober   Summer 2020
Cambia Palliative Care Center of Excellence at UW Medicine

Postdoctoral Research Fellow with Todd McNutt   2018 - 2019
Johns Hopkins Hospital, Radiation Oncology Department

Education and Training

University of Washington   2019 - 2024
Ph.D. in Biomedical & Health Informatics: Advanced Data Science   *Seattle, WA*

Johns Hopkins School of Medicine   2018 - 2019
Postdoctoral Research Fellow   *Baltimore, MD*

Johns Hopkins University   2016 - 2018
Master of Health Science in Epidemiology   *Baltimore, MD*

Capital Medical University   2011 - 2016
M.B.B.S. (M.D. equivalent) in Preventive Medicine   *Beijing, China*

Teaching

Instructor at School of Information Sciences, UIUC   2024 Fall
S504 Sociotechnical Information Systems

Instructor at Biomedical & Health Education, University of Washington   2023 Spring
BIME 591D: What Can Large Language Models do for Clinical NLP?

Instructor at The International Federation of Red Cross and Red Crescent Societies (IFRC)   2012-2016
Youth as Agents of Behavioural Change (YABC)

Services

Journal Reviewing: npj Digital Medicine, Journal of the American Medical Informatics Association, Journal of Biomedical Informatics, Frontiers in Computer Science

Program Committee Member: ACL Rolling Review (2021 - pre.), EMNLP (2021), ACL (2021), AAAI (2020), AMIA (2019 - pre.)

Regional Youth Representative: International Federation of Red Cross and Red Crescent Societies (IFRC), Asia Area (2012-2016)

Talks

University of North Carolina at Chapel Hill School of Information   2024 Feb
Making Health Knowledge Accessible Through Personalized Language Processing   *Chapel Hill, NC*

University of Illinois Urbana-Champaign College of Applied Health Sciences   2024 Feb
Making Health Knowledge Accessible Through Personalized Language Processing   *Champaign, IL*

University of Washington Paul G. Allen School of Computer Science & Engineering   2024 Feb
Making Health Knowledge Accessible Through Personalized Language Processing   *Seattle, WA*

University of Washington Information School   2024 Feb
Making Health Knowledge Accessible Through Personalized Language Processing   *Seattle, WA*

American Medical Informatics Association (AMIA) Annual Symposium   2023 Nov
Retrieval Augmentation of Large Language Models for Lay Language Generation   *NO, LA*

Allen Institute for Artificial Intelligence (AI2)   2023 Nov
Personalized Jargon Identification for Enhanced Interdisciplinary Communication   *Online*

University of Washington Information School   2023 Oct
Evaluating the evaluation for Lay Language Summarization   *Online*

Google   2022 Aug
Abusive Language Detection in YouTube Comments   *Online*

University of Washington School of Medicine   2022 May
Large Language Models for Summarization Task   *Online*

Microsoft Research   2021 Aug
Automated Generation of Clinical Notes From Patient-Doctor Encounters   *Online*

AAAI Conference on Artificial Intelligence (AAAI)   2021 Feb
Automated Lay Language Summarization of Biomedical Scientific Reviews   *Online*

Peking Union Medical College Hospital   2019 Jul
Personalization of Radiation Therapy for Head and Neck Cancer Patients   *Beijing, China*

American Society for Radiation Oncology (ASTRO) Annual Meeting — 2019 Nov
Evaluation of Patient vs. Provider Based Assessments of Xerostomia and Dysphagia — *Chicago, IL*
Compared Against Weight Loss in the Irradiated Head and Neck Cancer Patient

American Society for Radiation Oncology (ASTRO) Annual Meeting — 2019 Nov
A Feasibility Study of Xerostomia Outcome-Based Treatment Planning to Improve the — *Chicago, IL*
Probability of Xerostomia Recovery in Head and Neck Cancer Patients

International Conference on the Use of Computers in Radiation Therapy (ICCR) — 2019 Jul
A Feasibility Study of Xerostomia Outcome-Based Treatment Planning to Improve the — *Montreal, Canada*
Probability of Xerostomia Recovery in Head and Neck Cancer Patients

American Association of Physicists in Medicine(AAPM) Annual Meeting — 2019 Jul
An Outcome-Based Treatment Planning Strategy to Improve Xerostomia Symptom in — *San Antonio, TX*
Head and Neck Cancer Patients

The 3rd UN World Conference on Disaster Risk Reduction — 2015 Mar
Asian Youth Engagement in Disaster Risk Reduction — *Sendai, Japan*

PUBLICATIONS

Note re: publication norms: In computer science and information science, publishing mostly occurs in conference and workshop proceedings, and occasionally in journals. Within the subfield of natural language processing, the ACL conferences (ACL, NAACL, etc) and AAAI conference are peer-reviewed high-impact venues, with acceptance rates around 25%. In health informatics, publishing primarily occurs in journals, e.g., Journal of Biomedical Informatics (impact factor: 4.5), Scientific Report (impact factor: 4.6).

Conference & Journal Papers

- **Yue Guo**, Joseph Chee Chang, Maria Antoniak, Erin Bransom, Trevor Cohen, Lucy Lu Wang, Tal August. *Personalized Jargon Identification for Enhanced Interdisciplinary Communication.* Proceedings of the Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL), 2024

- **Yue Guo**, Tal August, Gondy Leroy, Trevor Cohen, Lucy Lu Wang. *APPLS: A Meta-evaluation Testbed for Plain Language Summarization.* Under review, 2024

- **Yue Guo**, Wei Qiu, Gondy Leroy, Sheng Wang, Trevor Cohen. *Retrieval Augmentation of Large Language Models for Lay Language Generation.* Journal of Biomedical Informatics (JBI), 2023.

- Alison M. Uyeda, J. Randall Curtis, Ruth A. Engelberg, Lyndia C. Brumback, **Yue Guo**, James Sibley, William B. Lober, Trevor Cohen, Janaki Torrence, Joanna Heywood, Sudiptho R. Paul, Erin K. Kross, Robert Y. Lee. *Mixed-methods evaluation of three natural language processing modeling approaches for measuring documented goals-of-care discussions in the electronic health record.* Journal of Pain and Symptom Management, 2022

- **Yue Guo**, Changye Li, Carol Roan, Serguei Pakhomov, Trevor Cohen. *Crossing the 'Cookie Theft' Corpus Chasm: Applying what BERT Learns from Outside Data to the ADReSS Challenge Dementia Detection Task.* Frontiers in Computer Science, 2021

- **Yue Guo**, Wei Qiu, Yizhong Wang, Trevor Cohen. *Automated Lay Language Summarization of Biomedical Scientific Reviews.* Proceedings of the AAAI Conference on Artificial Intelligence, 2021

- Yu-Cong Li, Yu-Qian Zhao, Ting-Yuan Li, Wen Chen, Guang-Dong Liao, Hai-Rui Wang, Hai-Ke Lei, **Yue Guo**, Qi Zhou. *The Performance of Immunocytochemistry Staining as Triaging Tests for High-Risk HPV-Positive Women: A 24-Month Prospective Study.* Journal of Oncology, 2020

- **Yue Guo**, Wei Jiang, Pranav Lakshminarayanan, Xuan Hui, Peijin Han, Zhi Cheng, Michale Bowers, Ilya Shpitser, Sauleh Siddiqui, Russell H Taylor, Harry Quon, Todd McNutt. *Spatial radiation dose influence on xerostomia recovery and its comparison to acute incidence in head neck cancer patients.* Advances in Radiation Oncology, 2020

- Peijin Han, Pranav Lakshminarayanan, Wei Jiang, Ilya Shpitser, Xuan Hui, Sang Ho Lee, Zhi Cheng, **Yue Guo**, Russ Taylor, Sauleh Siddiqui, Michael Bowers, Khadija Sheikh, Junghoon Lee, Harry Quon, Todd McNutt. *Dose/Volume histogram patterns in Salivary Gland subvolumes influence xerostomia injury and recovery.* Scientific Reports, 2019

- Feng-qi Luo, **Yue Guo**, Yi-fei Lu, Yue Zhang, Qi Gao, Hui-ping Zhu. *Association between sleep and agricultural injuries among peach farmers during harvest time in Pinggu District, Beijing, China.* Injury Medicine Magazine, 2016

Extended Abstracts (Peer-Reviewed)

- **Yue Guo**, Wei Qiu, Gondy Leroy, Sheng Wang, Trevor Cohen. *Retrieval Augmentation of Large Language Models for Lay Language Generation.* American Medical Informatics Association (AMIA) Annual Symposium, 2023.

- **Yue Guo**, Pranav Lakshminarayanan, Peijin Han, Khadija Sheikh, Zhi Cheng, Wei Jiang, Michael Bowers, Sauleh Siddiqui, Ilya Shpitser, Russell H Taylor, Harry Quon, Todd McNutt. *The feasibility of outcome-based treatment planning strategy to improve xerostomia symptom in head and neck cancer patients.* International Journal of Radiation Oncology, Biology, Physics, 2019

- **Yue Guo**, Zhi Cheng, Emily Cecil, Pranav Lakshminarayanan, Yifei Lu, Peijin Han, Ana Kiess, Todd McNutt, Harry Quon. *Evaluation of Patient vs. Provider Based Assessments of Xerostomia and Dysphagia Compared Against Weight Loss in the Irradiated Head and Neck Cancer Patient.* International Journal of Radiation Oncology Biology Physics, 2019

- Zhi Cheng, Khadijia Sheikh, Pranav Lakshminarayanan, Wei Jiang, Peijin Han, **Yue Guo**, Emily Cecil, L Sloan, Ana Kiess, Brandi Page, Junhoon Lee, Harry Quon, Todd McNutt. *Voxel Dose Pattern for Patient-Reported Dysphagia Among Head and Neck Cancer Patients Receiving Definitive Radiotherapy.* International Journal of Radiation Oncology Biology Physics, 2019

- Matthew Deek, Emily Cecil, L Sloan, Zhi Cheng, Peijin Han, Khadijia Sheikh, Chengcheng Gui, **Yue Guo**, Pranav Lakshminarayanan, C Fakhry, W Koch, CG Gourin, M Tan, W Mydlarz, NC Schmitt, Todd McNutt, Brandi Page, Ana Kiess, J Richmon, Harry Quon *Definitive Management of Early Stage Oropharyngeal Carcinoma: A Comparison of Long Term Outcomes Following Transoral Surgery or Definitive Chemoradiation.* International Journal of Radiation Oncology Biology Physics, 2019

- Brandi Page, **Yue Guo**, Peijin Han, Zhi Cheng, J. Harkness, C. Shen, Amanda Choflet, Chen Hu, Emily Cecil, Xuan Hui, Nicole Schmitt, I. Shpitser, Ana Kiess, Todd McNutt, and Harry Quon. *Quality of Life differences in Male and Female Patients with Head and Neck Cancer.* International Journal of Radiation Oncology Biology Physics, 2018

- Peijin Han, Pranav Lakshminarayanan, W Liang, I Shpitser, Xuan Hui, Sang Ho Lee, Zhi Cheng, **Yue Guo**, Russell Taylor, Sauleh Siddiqui, Michael Bowers, Khadija Sheikh, Junghoon Lee, Harry Quon, Tidd McNutt. *Head and Neck Salivary Gland Spatial Dose-Volume histogram (DVH) Patterns Predict Radiation-Induced Xerostomia, From Injury to Recovery.* Medical Physics, 2018