

Newsletter

Working
Group

Student

October 2024



Student Opportunities

Showcase your research

Want to nominate yourself for a student spotlight?

Let us know about your work

Looking to get feedback on a work-in-progress project? Present your ideas to an AMIA WG

Positions

Apply for the JBI Student Editorial Board

Find a postdoctoral fellowship

Informatics KnowHow: The Trainee Edition #IKnowTE

We're excited to announce that our very own podcast is coming soon!

Get connected!

Follow the AMIA STWG on LinkedIn

Sign up to join the AMIA Newsletter team!

In this issue:

- 1 Student Spotlight: Dr. Ayomide Owoyemi
- 2 Publications Spotlight: Student First-Authored Papers
- 3 AMIA Annual Symposium- Featured Events

Save the date:

AMIA Annual Symposium

November 9-13, 2024
San Francisco, CA

AMIA Informatics Summit

March 10-13, 2025
Pittsburgh, PA



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STUDENT SPOTLIGHT



Dr. Ayomide Owoyemi

PhD in Biomedical and Health Informatics

University of Illinois Chicago

Please briefly describe your research focus, including your development of a novel framework and checklist to enhance the implementation and adoption of AI systems in clinical care for your dissertation and your research paper on documentation burden.

My research focuses on improving the implementation and adoption of artificial intelligence (AI) systems in clinical care by addressing the sociotechnical factors that influence their success. For my dissertation, I developed the Clinical AI Sociotechnical Framework, which provides a structured overview of critical issues essential for integrating, validating, and operationalizing AI in healthcare settings.

What is your research process and what challenges have you faced in your research?

I employ mixed methods, including focus group discussions, in-depth interviews, and surveys, to thoroughly understand the sociotechnical factors influencing the implementation of AI tools in clinical settings. Some challenges I have faced include securing necessary funding for my research and recruiting patients for studies. Fortunately, my advisor and thesis committee have been very supportive, helping me navigate these obstacles and manage them effectively.

What impact do you hope your research will have?

I hope that my research will enhance the implementation and adoption of AI systems in clinical care. By developing the Clinical AI Sociotechnical Framework (CASoF), along with its easy-to-use checklist, I aim to provide an end-to-end tool for designers, developers, AI engineers, informaticians, and clinicians. This should improve patient care and outcomes by ensuring that AI tools are not only technologically sound but also aligned with the needs and workflows of healthcare providers.

What advice do you have for students starting in informatics?

Focus on acquiring as many technical skills as possible. Building or developing projects that can be easily referenced provides practical experience and strengthens your portfolio. Prioritizing internships during your program is also crucial, as it significantly enhances your résumé and job prospects after graduation. Lastly, keep an eye on industry trends and work towards obtaining relevant certifications that are in demand.

How do you envision the future of informatics? Specifically, what do you envision for the future of AI in clinical care?

I envision informatics as becoming increasingly prominent and highly regarded within the healthcare industry. This trend is on the rise, and the field will become more credentialed and integral to healthcare delivery. Specifically, I see AI in clinical care continuing to transform how we deliver care by augmenting the capacity and efficiency of clinicians.

PUBLICATIONS SPOTLIGHT

JAMIA and JAMIA Open October 2024 : First-Authored Publication by Students, Trainees, and Fellows; Our apologies in advance for any unintended errors or omissions. Thank you.

Bandyopadhyay A, Albashayreh A, Zeinali N, Fan W, Gilbertson-White S. Using real-world electronic health record data to predict the development of 12 cancer-related symptoms in the context of multimorbidity. JAMIA Open. 2024;7(3):ooae082. Published 2024 Sep 12. doi:10.1093/jamiaopen/ooae082

Bhattarai K, Oh IY, Sierra JM, et al. Leveraging GPT-4 for identifying cancer phenotypes in electronic health records: a performance comparison between GPT-4, GPT-3.5-turbo, Flan-T5, Llama-3-8B, and spaCy's rule-based and machine learning-based methods. JAMIA Open. 2024;7(3):ooae060. Published 2024 Jul 3. doi:10.1093/jamiaopen/ooae060

Bopche R, Gustad LT, Afset JE, Ehrnström B, Damås JK, Nytrø Ø. In-hospital mortality, readmission, and prolonged length of stay risk prediction leveraging historical electronic patient records. JAMIA Open. 2024;7(3):ooae074. Published 2024 Sep 14. doi:10.1093/jamiaopen/ooae074

Falis M, Gema AP, Dong H, et al. Can GPT-3.5 generate and code discharge summaries?. J Am Med Inform Assoc. 2024;31(10):2284-2293. doi:10.1093/jamia/ocae132

Franco MI, Staab EM, Zhu M, et al. Implementation of an EHR-integrated web-based depression assessment in primary care: PORTAL-Depression, JAMIA Open. 2024;7(3):ooae094, <https://doi.org/10.1093/jamiaopen/ooae094>

Ghanbari G, Lam JY, Shashikumar SP, et al. Development and validation of a deep learning algorithm for the prediction of serum creatinine in critically ill patients. JAMIA Open. 2024;7(3):ooae097. Published 2024 Sep 19. doi:10.1093/jamiaopen/ooae097

Gimeno A, Krause K, D'Souza S, Walsh CG. Completeness and readability of GPT-4-generated multilingual discharge instructions in the pediatric emergency department. JAMIA Open. 2024;7(3):ooae050. Published 2024 Jul 1. doi:10.1093/jamiaopen/ooae050

Guo Y, Ovadje A, Al-Garadi MA, Sarker A. Evaluating large language models for health-related text classification tasks with public social media data. J Am Med Inform Assoc. 2024;31(10):2181-2189. doi:10.1093/jamia/ocae210

Hettiarachchi Senarath GM, Delir Haghighi P, Bai L, et al. Barriers and facilitators to the uptake of electronic collection and use of patient-reported measures in routine care of older adults: a systematic review with qualitative evidence synthesis. JAMIA Open. 2024;7(3):ooae068. Published 2024 Aug 2. doi:10.1093/jamiaopen/ooae068

PUBLICATIONS SPOTLIGHT...CONT'D

JAMIA and JAMIA Open October 2024 : First-Authored Publication by Students, Trainees, and Fellows; Our apologies in advance for any unintended errors or omissions. Thank you.

Joshi M, Gokhale A, Ma S, et al. "Covering provider": an effort to streamline clinical communication chaos. JAMIA Open. 2024;7(3):ooae057. Published 2024 Jul 5. doi:10.1093/jamiaopen/ooae057

Kim S, Warner BC, Lew D, Lou SS, Kannampallil T. Measuring cognitive effort using tabular transformer-based language models of electronic health record-based audit log action sequences. J Am Med Inform Assoc. 2024;31(10):2228-2235. doi:10.1093/jamia/ocae171

Kumar S, Yu SC, Michelson A, Kannampallil T, Payne PRO. HiMAL: Multimodal Hierarchical Multi-task Auxiliary Learning framework for predicting Alzheimer's disease progression. JAMIA Open. 2024;7(3):ooae087. Published 2024 Sep 17. doi:10.1093/jamiaopen/ooae087

Liu L, Liu L, Wafa HA, Tydeman F, Xie W, Wang Y. Diagnostic accuracy of deep learning using speech samples in depression: a systematic review and meta-analysis. J Am Med Inform Assoc. 2024;31(10):2394-2404. doi:10.1093/jamia/ocae189

Mungle T, Mahadevan A, Mukhopadhyay J, Bhattacharya SD, Saha V, Krishnan S. Analysis toolkit for evaluation of drug titration practice in acute lymphoblastic leukemia maintenance. JAMIA Open. 2024;7(3):ooae089. Published 2024 Sep 13. doi:10.1093/jamiaopen/ooae089

Nie Z, Gao S, Chen L, et al. Social media use and mental health among older adults with multimorbidity: the role of self-care efficacy. J Am Med Inform Assoc. 2024;31(10):2210-2216. doi:10.1093/jamia/ocae179

Parraga-Leo A, Oskotsky TT, Oskotsky B, et al. VMAP: Vaginal Microbiome Atlas during Pregnancy. JAMIA Open. 2024;7(3):ooae099. Published 2024 Sep 27. doi:10.1093/jamiaopen/ooae099

Rashid AA, Skelly RA, Valdes CA, et al. Evaluating ChatGPT's moral competence in health care-related ethical problems. JAMIA Open. 2024;7(3):ooae065. Published 2024 Jul 9. doi:10.1093/jamiaopen/ooae065

Rzewnicki D, Kanvinde A, Gillespie S, Orenstein E. Association of patient photographs and reduced retract-and-reorder events. JAMIA Open. 2024;7(3):ooae042. Published 2024 Jul 2. doi:10.1093/jamiaopen/ooae042

Sivarajkumar S, Tam TYC, Mohammad HA, et al. Extraction of sleep information from clinical notes of Alzheimer's disease patients using natural language processing. J Am Med Inform Assoc. 2024;31(10):2217-2227. doi:10.1093/jamia/ocae177

PUBLICATIONS SPOTLIGHT...CONT'D

JAMIA and JAMIA Open October 2024 : First-Authored Publication by Students, Trainees, and Fellows; Our apologies in advance for any unintended errors or omissions. Thank you.

Streiffer C, Saini D, Whitehead G, et al. The incremental design of a machine learning framework for medical records processing. J Am Med Inform Assoc. 2024;31(10):2236-2245. doi:10.1093/jamia/ocae194

Suarez JRM, Lafontant K, Blount A, Park JH, Thiamwong L. Recreating Fall Risk Appraisal matrix using R to support fall prevention programs. JAMIA Open. 2024;7(3):ooae088. Published 2024 Sep 18. doi:10.1093/jamiaopen/ooae088

Sushil M, Zack T, Mandair D, et al. A comparative study of large language model-based zero-shot inference and task-specific supervised classification of breast cancer pathology reports. J Am Med Inform Assoc. 2024;31(10):2315-2327. doi:10.1093/jamia/ocae146

van Buchem MM, de Hond AAH, Fanconi C, et al. Applying natural language processing to patient messages to identify depression concerns in cancer patients. J Am Med Inform Assoc. 2024;31(10):2255-2262. doi:10.1093/jamia/ocae188

van de Burgt BWM, Wasylewicz ATM, Dullemond B, et al. Development of a text mining algorithm for identifying adverse drug reactions in electronic health records. JAMIA Open. 2024;7(3):ooae070. Published 2024 Aug 16. doi:10.1093/jamiaopen/ooae070

Xu J, Silver MA, Kim J, Mazotti L. Using the electronic health record to provide audit and feedback in medical student clerkships. JAMIA Open. 2024;7(3):ooae090. Published 2024 Sep 23. doi:10.1093/jamiaopen/ooae090

Zhang Y, Callaghan-Koru JA, Koru G. The challenges and opportunities of continuous data quality improvement for healthcare administration data. JAMIA Open. 2024;7(3):ooae058. Published 2024 Aug 1. doi:10.1093/jamiaopen/ooae058

Zhou W, Miller TA. Generalizable clinical note section identification with large language models. JAMIA Open. 2024;7(3):ooae075. Published 2024 Aug 13. doi:10.1093/jamiaopen/ooae075

Zhu J, Cukier M, Richardson J Jr. Nutrition facts, drug facts, and model facts: putting AI ethics into practice in gun violence research. J Am Med Inform Assoc. 2024;31(10):2414-2421. doi:10.1093/jamia/ocae102

CONGRATULATIONS TO ALL!!

AMIA ANNUAL SYMPOSIUM- FEATURED EVENTS

**Don't miss these exciting events aimed at
empowering students and trainees**

Saturday (Day 1)

Student Paper Competition

2:30 pm- 5:30 pm | Franciscan D

Women in Informatics Networking Event (WINE)

6:00 pm- 7:30 pm | Union Square 22

AMIA and Annual Symposium Orientation

5:30 pm- 6:30 pm | Continental Ballroom 1-2

Sunday (Day 2)

AMIA Fun Run/Walk

6:30 am – 7:45 am

AMIA Welcome Reception

5:00 pm - 7:00 pm | Grand Ballroom

Student Working Group Community Meeting

6:30pm-7:30pm | Franciscan C

Day (3 & 4)

Exhibition Hall & Headshot Studio

10:00 AM – 1:00 PM | Grand Ballroom

3:00 PM–6:30 PM | Grand Ballroom

AMIA ANNUAL SYMPOSIUM- FEATURED EVENTS

Monday (Day 3)

Poster Session

5:00-6:30pm | Grand Ballroom

LGBTQIA+ QuINE #QueerinAMIA DEI Reception

5:30pm-6:30pm | Yosemite C

Diversity Equity and Inclusion Community Reception

Pre-registration required

6:30 pm - 8:00 pm | Yosemite C

Career Ignite Talks

9:00am-4:00pm | Yosemite B

DEI-ME Career Mentoring Event

8:00pm-9:30pm | Yosemite B

Tuesday (Day 4)

Poster Session

5:00-6:30pm | Grand Ballroom

Student and ACMI Mixer

Pre-registration required

5:30 pm - 7:00 pm | Yosemite C

AMIA Dance Party

9:00pm-11:59pm | Plaza A/B

Wednesday (Day 5)

Closing Ceremony + Informatics Year In Review

11:15-12:45pm | Continental Ballroom