Society for Prevention Research
33rd Annual Meeting

Pre-Conference Workshop V

Date: Tuesday, May 27, 2025

Time: 12:30 pm-5:00pm

Title: Artificial Intelligence (AI) and Machine Learning (ML) Literacy and Applications in Prevention Science

Presenters:

- Dr. Jonathan Wright, Penn State University, Prevention Research Center, jbw6233@psu.edu, (541) 852-3041
- Dr. Xiaoya Zhang, University of Florida, Dept. of Family, Youth and Community Sciences, xiaoyazhang@ufl.edu, (352) 273-3543

Purpose of the Workshop and Learning Objectives:

The workshop aims to introduce Prevention Science Researchers to foundational concepts and practical applications of artificial intelligence (AI) and machine learning (ML). Participants will:

1. Understand key terms, principles, and the scope of AI and ML relevant to prevention science.
2. Explore practical use cases of AI/ML in prevention research, policy implementation, and practice.
3. Explore AI/ML data processing coding pipelines and results.
4. Brainstorm research questions on different topics that can be answered using AI/ML methods
5. Discuss ethical considerations, including equity and privacy, related to AI and ML applications in prevention science.

Target Workshop Audience:

Early-career researchers, practitioners, and policymakers interested in AI/ML use in prevention research. Participants should have basic familiarity with data analysis but no prior experience with AI/ML is required.

Materials Provided:

Participants will receive workshop slides, access to demonstration datasets, a curated list of key resources, and practical step-by-step guides for basic AI/ML applications.

Presenters' Qualifications:

- Dr. Jonathan Wright: [Brief CV highlights, emphasizing expertise in AI/ML and prevention science]
- Dr. Xiaoya Zhang: [Brief CV highlights, emphasizing expertise in AI/ML, and prevention science]

Workshop Outline:

1. Introduction to AI and ML (45 min)
    - Definitions, foundational concepts, and relevance to prevention science (Presenter 1)
2. Explore AI/ML data processing coding pipelines and results (60-75 min)
    - Practical examples of data preparation, model training, validation, and results (Both presenters; interactive/hands-on)
3. Break (15 min)
4. Real-World Applications and Case Studies (60 min)
    - Examples from current research and practice showcasing the value and challenges of using AI/ML (Presenter 2)
5. Discussion: Ethics and Research Questions (60 min)
    - Discussion of ethical and equity issues in AI/ML, including data privacy and equity impacts (Presenter 1)
    - Discussion of potential research questions (Presenter 2)
6. Wrap-up and Q&A (15 min)