The AI-empowered Researcher: Using AI-based Tools for Success in Ph.D. Programs

SIG Sponsor(s):

Doctoral Students (Vanessa Kitzie, University of South Carolina, USA)
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Presenters:

Manar Alsaid (University of North Texas, USA), Adam Eric Berkowitz (University of Alabama, USA), Anisah Herdiyanti (Florida State University, USA; Institut Teknologi Sepuluh Nopember, Indonesia), Rebecca Bryant Penrose (California State University-Bakersfield, USA; Manchester Metropolitan University, UK)

ABSTRACT

Generative artificial intelligence (AI) changes the picture of graduate education by providing personalized learning, automated feedback, intelligent research assistants, and automated content creation (George, 2023). AI tools will support doctoral students in text generation, language translation, responding to academic queries, and data collection and analysis and encourage self-learning and thinking development (Rasul et al., 2023; Zou & Huang, 2023). They also would be helpful for doctoral students working as teaching assistants and aiding in daily problems (Can et al., 2023; Parker et al., 2024). However, the rise of AI tools also leads to considerations of academic integrity, over-reliance on AI, misinformation, and the potential biases embedded in algorithms (George, 2023; Rasul et al., 2023).

Echoing the opportunities and challenges of AI applications in research and learning, the ALISE Doctoral Students SIG wants to encourage a discussion on how doctoral students can use AI tools to empower us in the Ph.D. journey. The panel invites a diverse group of doctoral students/candidates to share how AI tools can facilitate data collection and analysis and their critical understanding of AI systems.

Manar Alsaid will talk about using AI and machine learning to detect complex misinformation on social media. The talk aims to enhance our understanding of misinformation and reduce its negative impacts. This presentation will provide valuable insights for research on misinformation and information literacy.

Adam Eric Berkowitz will introduce the black-box tinkering method that experimentally discerns how AI systems operate. The method enhances the transparency of AI systems, challenging the technocratic paradigm. With three examples, Berkowitz encourages attendees to learn what black-box tinkering is, how to identify cases using it, and potential opportunities to incorporate it in research.

Anisah Herdiyanti will share insights from a study comparing transcripts generated by Otter.ai and Zoom Meetings. The presentation will highlight both the benefits and challenges of AI-based notes and transcription software, including technical concerns and the convenience of automated result delivery. The audience will enhance their understanding of AI tools in qualitative data transcribing and the ethical considerations in the process.

Rebecca Bryant Penrose will showcase the use of HeyGen, an AI-based video generator and translation tool, in an international interview project between students at California State University Bakersfield and a Ukrainian artist/author. The presentation will increase awareness of the potential use of AI-based video and help researchers overcome language barriers in data collection.

The panel will last 90 minutes, including a 5-minute introduction and a 5-minute wrap-up. Each panelist will have 10 minutes to present their topics, followed by 5-minute Q&As. A 25-minute moderated roundtable discussion will follow the panelists' presentations to explore the potential use of different AI tools in research, including ChatGPT and AI-powered article summarizers. The panel's learning outcomes include (1) Identifying challenges and opportunities to incorporate AI tools in research and study and (2) Explaining how to interact with AI tools to improve efficiency in research. It also provides a platform for doctoral students to share their knowledge of how AI changes research approaches and networks with each other.

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AUTHOR KEYWORDS

doctoral students; AI application; data collection & analysis; technology ethics.

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