Harnessing AI for Information Diplomacy: Addressing Algorithmic Bias in Cross-Cultural Service-Learning

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Abstract

As artificial intelligence (AI) transforms education, its integration into service-learning presents opportunities and challenges for algorithmic literacy, infodemic management, and global engagement. This article examines how AI-enhanced service-learning fosters analytical and ethical skills, drawing from a Fulbright-sponsored course in Finland and a Diplomacy Lab project. It explores AI's pedagogical implications, role in information diplomacy, and faculty development, emphasizing AI's potential to reshape service-learning while advancing critical thinking and algorithmic literacy.

Keywords: Artificial Intelligence • Service-Learning • Information Diplomacy • Infodemic Management • Experiential Education.

My exploration of artificial intelligence (AI) and information diplomacy began with an early career focus on policy-driven information management. As a postgraduate fellow with the Congressional Research Service, I examined how research supports public decision-making, particularly in areas where information governance intersects with public trust. This foundation was further developed during my internship with the U.S. Department of State's Humanitarian Information Unit. There, I applied my skills in information systems and data analysis to support conflict prevention and humanitarian response efforts. These experiences introduced me to the potential of data-driven insights to inform strategic policy discussions. They also reinforced my long-standing commitment to the intersection of technology, policy, and global information ecosystems, a focus that continues to guide my work today.

As an Associate Professor in Information Studies, I explore how emerging technologies influence public information systems, with implications for access, trust, and policy. My teaching and research explore the role of artificial intelligence in shaping the creation, circulation, and governance of public information. In 2022, I co-led a Diplomacy Lab project – Strategies for Identifying Mis/Dis/Malinformation – which engaged students in using AI-driven social listening tools to monitor mis/dis/malinformation trends on open social media platforms. Diplomacy Lab, a U.S. Department of State initiative, connects university faculty and students with real-world policy challenges to generate actionable insights for diplomatic priorities.

Through the project, students designed and prototyped machine learning models capable of real-time data analysis, gaining firsthand experience with the complexities of digital mis/dis/malinformation. The experience served not only as a case study in applied AI, but also as a turning point in how I conceptualize teaching. It demonstrated that integrating AI into service-learning requires a pedagogical shift from traditional problem-based learning models to AI-assisted, data-driven approaches that foreground critical interpretation, ethical reasoning, and civic engagement.

The opportunity to expand this work internationally through the Fulbright U.S. Scholar Program provided a critical next step. Finland, a leader in mis/disinformation resilience and digital literacy education, was an ideal setting to examine how AI-enhanced approaches can contribute to global mis/disinformation management strategies while also redefining instructional methodologies. While teaching a graduate course--Infodemic Management for Diverse Communities--I introduced students to AI-supported mis/disinformation tracking systems, namely the World Health Organization (WHO) Early AI-supported Response with Social Listening platform (EARS), and explored the ethical, social, and policy implications of AI-assisted information interventions.

Beyond pedagogy, this experience deepened my engagement with AI's role in information diplomacy--a strategic practice that, as Emily Metzgar suggests in *On the Policy and Politics of U.S. Information Diplomacy* (2021), refers to the use of information--particularly accurate, credible, and strategically curated content--as a soft-power tool in international engagement. Drawing from Metzgar's commentary, it underscores the need for intentional, ethically guided communication to foster understanding and counter mis/disinformation.

In this context, AI becomes more than a technical tool—it functions as an instrument of civic engagement and digital diplomacy. Embedding AI into instructional spaces reveals its potential to prompt critical reflection on how information is framed, filtered, and acted upon. To navigate this complexity, students and educators alike must cultivate AI literacy, which Long and Magerko define in their 2020 ACM Conference on Human Factors in Computing Systems talk titled *What is AI Literacy? Competencies and Design Considerations* as: "a set of competencies that enables individuals to critically evaluate AI technologies; communicate and collaborate effectively with AI; and use AI as a tool online, at home, and in the workplace." These competencies are essential for addressing algorithmic bias, ethical ambiguity, and the sociopolitical implications of automated systems.

AI AND INFORMATION DIPLOMACY IN SERVICE-LEARNING

AI is reshaping the landscape of service-learning by expanding how students engage with information diplomacy in practice--applying digital tools to navigate complex global issues, analyze public discourse, and collaborate across cultural contexts. Integrating AI tools into academic instruction and community-based engagement enables students to move beyond theoretical data analysis and directly engage with real-world information challenges. In her 2024 study *AI-Facilitated Critical Thinking in an Undergraduate Project-Based Service-Learning Cours*e, Sara Kimmel demonstrates how incorporating AI into service-learning strengthens critical thinking and reflective skills by engaging students in iterative analyses of complex social issues. Similarly, in their 2024 study, *Leveraging Artificial Intelligence in Project-Based Service Learning to Advance Sustainable Development: A Pedagogical Approach for Marketing Education*, C. M. Dubay and Melanie Richards present the AISLE model, illustrating how ethically integrated AI in project-based service-learning can support student learning outcomes while advancing the United Nations Sustainable Development Goals. Both studies' findings suggest that the integration of AI elevates service-learning by positioning students as active co-creators of knowledge, capable of leveraging digital tools to address complex social issues, communicate across cultures, and navigate the ethical terrain of emerging technologies.

I found similar results in my own work. Building on my Diplomacy Lab course, my Fulbright experience at Tampere University expanded my AI-informed service-learning approach to a global learning environment. I designed and taught a graduate course--Infodemic Management for Diverse Communities--that encouraged students to explore how AI could be applied to address mis/dis/malinformation challenges in multicultural settings, with a particular emphasis on the intersection of AI, public health, and community engagement. This model required students to interpret AI-generated insights and to assess AI's limitations, critically questioning how algorithmic bias, data transparency, and contextual inaccuracies shape digital narratives.

AI-driven tools, such as the WHO EARS, provided a dynamic framework for students to examine mis/dis/malinformation patterns in real time. By engaging with AI tools, students were able to identify trends, assess the credibility of online discourse, and develop targeted interventions to address misinformation within different sociocultural contexts. Yet this process also revealed the complexities of AI as an instructional tool, requiring constant human oversight, cultural adaptation, and ethical evaluation. Students encountered instances where the underlying data models failed to adequately capture the nuance of underrepresented languages or cultural contexts, leading to misclassifications or gaps in interpretation. These limitations were especially evident in multilingual or informal online discourse, where meaning

was shaped by local idioms, humor, or shifting sociopolitical references. AI alone could not provide fully actionable insights; students had to apply critical thinking to refine its outputs, demonstrating that AI must function as an assistive rather than authoritative tool in service-learning.

These cross-cultural differences significantly shaped how AI tools were integrated and interpreted across the two course settings. In Finland, digital literacy is introduced as early as age six and reinforced through a nationally coordinated approach involving schools, libraries, and NGOs. Students arrive in university with well-developed critical thinking skills and a deeply engrained understanding of how to evaluate digital content. This sustained investment in digital literacy is widely recognized as a key contributor to Finland's consistent top rankings in European media literacy indexes and it informed the high level of critical engagement I observed among Finnish students using AI tools in my Fulbright course. They questioned not only the reliability of AI-generated outputs, but also the governance models behind the data infrastructure itself, often framing their critiques within public health and policy ethics.

By contrast, the upper-class undergraduates in my U.S.-based Diplomacy Lab course often required more scaffolding to critically assess AI outputs. While the undergraduate versus graduate level difference between the two courses makes a direct comparison impossible, a 2021 Stanford study, *National Study of High School Students' Digital Skills Paints Worrying Portrait*, offers some insight. It found that only 0.1% of 3,446 U.S. high school students correctly identified the source of a misleading video and just 4% recognized a fossil fuel–funded climate change website as biased. The researchers concluded that the findings presented "a concerning picture of American students' ability to figure out who produced a given story, what their biases might have been, and whether the information is reliable." These results underscore a systemic need for AI literacy education in the U.S. and highlight the instructional demands of introducing AI tools into American service-learning environments.

Across both U.S. and Finnish contexts, service-learning created space for students to see AI not as an objective authority, but as a socially embedded, ethically contingent tool. Students actively collaborated with community health organizations, global health NGOs, and policymakers to apply AI-driven insights to real-world problems. Both American and Finnish students brought diverse perspectives on institutional trust, media ecosystems, and misinformation resilience, allowing for comparative discussions on how AI tools could be adapted to different information environments. Yet, the stark contrast in baseline AI literacy and institutional trust revealed that AI-supported instruction must be carefully adapted to national educational cultures, rather than applied uniformly across global classrooms.

By incorporating AI into service-learning, students moved beyond passive analysis to action-based learning, where they applied AI-driven findings to design public communication strategies, develop educational interventions, and contribute to community-centered mis/dis/malinformation mitigation efforts. This experience reframed students as active participants in AI-

enhanced information diplomacy, equipping them with the skills to leverage AI responsibly in civic and global engagement efforts. More importantly, it prepared them to think critically about AI as a tool for social impact, developing adaptive AI literacy skills that will be essential as AI becomes further embedded in evidence-based decision making.

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Faculty Development, AI Integration, and the Challenges of AI in Service-Learning

While much of the discussion around global service-learning focuses on student outcomes, the integration of AI-driven tools into experiential learning environments presents unique challenges for faculty professional development. Exchange programs such as the Fulbright U.S. Scholar Program and public-private federal partnerships like Diplomacy Lab have expanded my academic growth, instructional strategies, and research collaborations, but they have also revealed barriers to long-term AI integration in education. Faculty must navigate the technical, ethical, and sustainability challenges of embedding AI into instructional models while ensuring that AI remains a tool for enhancing learning rather than replacing critical engagement and human interpretation.

One of the primary challenges of incorporating AI into service-learning is navigating the balance between technological advancement and ethical responsibility. During my instruction, I found that AI provided valuable insights into public discourse trends and misinformation patterns. For example, the WHO EARS tool proved especially useful for identifying trending public health topics during Fall 2023. While COVID-19 and the COVID-19 vaccine remained part of the conversation, my students and I also surfaced concerns about the severity of the seasonal flu and broader debates around public health preparedness. EARS enabled us to track how these topics evolved in near real time in Finland. They then used these insights to guide their selection of community partners and align their project focus with the issues most actively discussed in the public sphere, such as partnering with local health agencies to address flu communication or with NGOs focused on vaccine equity.

However, the process also revealed the limitations of AI in cross-cultural contexts. The EARS system at times struggled with accuracy, contextual understanding, and bias mitigation. For instance, nuances in spoken Finnish and casual written language, common in online discourse—differ significantly from the formal Finnish used to train many AI language models. This occasionally led to the misclassification of ironic or idiomatic posts,

prompting students to question the reliability of algorithmic interpretations and reinforcing the need for human oversight in AI-supported analysis. Similarly, in the U.S.-based Diplomacy Lab course, students attempted to build their own social listening tool using open-source platforms and publicly available data. While the exercise fostered hands-on learning about data preprocessing and machine learning, it also revealed how access to high-quality, representative training data, particularly for marginalized communities or niche issue areas, was limited or unevenly distributed. These challenges highlighted that AI's instructional value is inseparable from broader issues of data equity, cultural specificity, and infrastructure access.

These limitations point to a broader gap in faculty training: AI literacy is not yet a standard component of professional development, particularly for instructors integrating experiential or service-learning models. As Hervieux and Wheatley observe in their 2024 white paper, Building an *AI Literacy Framework: Perspectives from Instruction Librarians and Current Information Literacy Tools*, librarians and instructors are increasingly engaging with generative AI in the classroom, yet few have access to structured frameworks that address its ethical, societal, and technical dimensions. Most continue to rely on the ACRL Framework for Information Literacy in Higher Education, which offers a strong foundation for critical inquiry but lacks guidance specific to the pedagogical challenges posed by AI.

As a result, instructors must take on dual roles as both educators and AI facilitators, guiding students not only on how to use these tools, but also on how to critically evaluate AI outputs, recognize algorithmic bias, and navigate ethical considerations across cultural and disciplinary contexts. Without such guidance, students risk interpreting AI-generated insights as objective truths rather than socially constructed outputs that require thoughtful interpretation and contextual judgment.

Addressing this gap will require targeted investment in faculty-facing AI literacy development. Universities must prioritize interdisciplinary workshops, team-teaching models, and course release opportunities that allow faculty to explore AI's evolving role in applied learning. This includes building shared frameworks for ethical evaluation, bias detection, and curricular integration. Faculty must ultimately move from being occasional users of AI to becoming AI pedagogical designers, ensuring that these tools are not applied as generic, one-size-fits-all solutions, but are thoughtfully adapted to the civic, cultural, and disciplinary contexts in which students learn and engage.

Another critical limitation of AI in service-learning is its accessibility, usability, and long-term sustainability. While AI tools offer data-driven insights, they often require technical expertise that can present barriers for students, instructors, and community partners. Many platforms lack user-friendly interfaces or culturally adaptive features, complicating their integration into community-based projects. Resource constraints such as limited institutional access to AI software, training opportunities, and computational infrastructure further hinder the scalability of AI-enhanced service-learning initiatives.

For example, while using the WHO EARS platform in my Finnish course, students encountered challenges related to the tool's limited regional customization, which reduced its effectiveness in capturing mis/dis/malinformation trends specific to Finland. This required substantial human interpretation and local expertise to supplement the AI-generated outputs. Compounding these issues, the EARS platform is no longer publicly available due to broader budget constraints at the World Health Organization, raising concerns about the reliability and longevity of open, external AI tools in academic settings. These limitations underscore the need for institutional investment not only in training and infrastructure, but also in the long-term integration, support, and adaptability of AI tools. Without such commitment, AI risks remaining a series of isolated pilot efforts rather than becoming a sustainable and embedded element of service-learning pedagogy.

Another challenge is faculty preparedness in guiding students through AI ethics. Algorithmic bias, data privacy concerns, discussions related to soft v. sharp power, and mis/dis/malinformation amplification risks require careful consideration when using AI as a tool for community engagement and public diplomacy. These issues became particularly relevant in my work despite AI's capabilities, human oversight was essential in both courses to contextualize AI-generated insights, prevent overreliance on automated decision-making, and ensure that interventions aligned with ethical communication principles. Yet, many instructors lack formal training in AI ethics—faculty development programs must evolve to include best practices for addressing bias, transparency, and mis/dis/malinformation risks in AI-assisted education.

In addition to institutional support and ethics training, exchange programs can play a crucial role in helping faculty adapt to AI-enhanced instructional models. The Fulbright Program enabled me to collaborate with European scholars on AI-driven service learning, expanding my global research network. Through an Inter-Country Travel Award, I visited Sweden, where discussions on AI's role in public trust, digital ethics, and mi/dis/malsinformation policy further enriched my perspective. These international engagements reinforced the need for multidisciplinary, multinational approaches to AI integration in education—ones that combine technological expertise with cultural and ethical sensitivity.

As AI continues to shape service-learning and information diplomacy, faculty must be equipped with critical digital literacy, ethical AI practices, and pedagogical adaptability. Addressing the limitations of AI in instructional settings requires more than individual effort, it demands sustained institutional investment in both experiential education and AI literacy infrastructure. My experiences have shown that service-learning flourishes when universities prioritize cross-sector collaboration and civic engagement. For example, my university supports a dedicated center for experiential education, a robust

public policy institute that fosters community partnerships, and a strong Fulbright advising program—each of which played a significant role in helping me scaffold civic learning projects where AI tools can be meaningfully applied.

Similarly, my host institution in Finland, Tampere University, demonstrated strong institutional support through its WHO Collaborating Centre for Health in All Policies and the Social Determinants of Health, which provided public health expertise and global policy context for student projects. My host department also had a long-standing history of hosting and supporting Fulbright Scholars, offering both institutional continuity and a globally engaged academic culture that made service-learning with AI both feasible and impactful.

Final Reflections

Reflecting on my Fulbright journey, I am struck by the transformative potential of AI in global service-learning. My experience integrating AI tools into a service-learning course in Finland revealed that AI is not merely a tool for data analysis, but a powerful catalyst for global engagement, digital literacy, and policy-informed education. At the same time, my experiences underscored the challenges of incorporating AI into service-learning on a global scale. AI tools are not universally accessible or equally effective across cultural and linguistic contexts, requiring human oversight, adaptability, and interdisciplinary collaboration. The sustainability of AI-enhanced service-learning also depends on ongoing faculty training, institutional support, and cross-sector partnerships, ensuring that AI remains a meaningful complement to instruction rather than a short-term innovation.

Moving forward, I am committed to further integrating AI into service-learning frameworks globally. In Summer 2024, I completed a cultural residency program in France that explored the policy dimensions of equitable information access. My work focused on how the placement of cultural institutions—such as libraries—and the design of their services can maximize their public impact, particularly in relation to the challenges of navigating information in an AI-driven world. That experience reinforced the importance of interdisciplinary and international collaboration in shaping the next generation of AI-enhanced service-learning models. My future research and instructional development will focus on how AI can be more effectively integrated into experiential learning in libraries while addressing equity, accessibility, and long-term sustainability.

My Fulbright experience reaffirmed my belief that education must go beyond transmitting knowledge; it must be a catalyst for social change. By integrating service-learning, AI, and information diplomacy, I will continue to foster equity, trust-building, and community empowerment, ultimately contributing to a more informed, ethically responsible, and globally connected society.

Further Reading

1. Artificial intelligence (AI) is increasingly shaping global information ecosystems, raising critical concerns about algorithmic bias, misinformation management, and ethical governance. For a detailed overview of AI's role in combating misleading information, see The Oversight Board's (2024) Content Moderation in a New Era for AI and Automation. Available at: https://www.oversightboard.com/wp-content/uploads/2024/09/Oversight-Board-Content-Moderation-in-a-New-Era-for-AI-and-Automation-September-2024.pdf
2. Although the EARS (Early AI-supported Response with Social Listening) tool described is no longer available, it served as a foundational component of the service-learning approach. The World Health Organization (WHO) continues to support a broader suite of AI-enhanced tools and strategies for infodemic management. To explore WHO's current global initiatives in this area, visit: https://www.who.int/health-topics/infodemic
3. Service-learning provides a critical platform for students to engage with AI in real-world problem-solving, particularly in culturally diverse and justice-oriented contexts. For an in-depth discussion of AI's role in cultural competency, service-learning, and expanding access to justice, see Robinson, G. (2025). *Artificial Intelligence: Cultural Competency, Service Learning, and Community Service Expanding Access to Justice. Cambridge University Press. ISBN: 979-8-8230-4178-2.*

As a Fulbright U.S. Scholar in Finland, Bethany McGowan conducted research and teaching at Tampere University, pictured here on campus in Tampere.

BIOGRAPHY

Bethany McGowan is an Associate Professor in the Libraries and School of Information Studies at Purdue University, specializing in service-learning, information diplomacy, and health information literacy. As a Fulbright Scholar to Finland (2023–2024), McGowan taught and conducted research on global health and information challenges, emphasizing the roles of information diplomacy and infodemic management in fostering cross-cultural understanding. Her work integrates academic instruction with public diplomacy frameworks to address global information challenges and promote community resilience. She can be reached at bmcgowa@purdue.edu.