# ACM SIGCAS Computers and Society

# TABLE OF CONTENTS

## SIGCAS

# Introduction to SIGCAS

SIGCAS Computers and Society is the ACM Special Interest Group that addresses the social aspects and ethical consequences of widespread computer usage. The main goals of SIGCAS are to raise awareness about the impact that technology has on society and to support and advance the efforts of those who are involved in this important work. Our members are computer professionals from both industry and academia, as well as ethicists, psychologists, sociologists, and others. We welcome students from a variety of disciplines. Our areas of involvement include computer ethics, universal access to computer technology, security, privacy, and reliability. We collaborate with other ACM bodies engaged in related work, such as COPE, USACM, SIGITE, and SIGCSE. ACM *Computers & Society* is an online publication accessible via the ACM Digital Library and the SIGCAS website. The newsletter aims to be an effective communication vehicle between the members of the group and the outside world.

**SIGCAS Computers and Society** Readers and writers are invited to join and participate actively in this Special Interest Group. Membership is open to all for $25 USD per year and to students for $10 USD per year. The link to join can be found on our website at [www.sigcas.org](www.sigcas.org).

**Contribute**. The Editor-in-Chief invites contributions of all types of written material (i.e., articles, working papers, news, interviews, reports, book reviews, bibliographies of relevant literature, and letters) on all aspects of computing that have a bearing on society and culture.

Please note that it is *NOT* a peer-reviewed publication. Submissions are checked for relevance, accessibility, and basic suitability by the editors but not fully peer reviewed.

For the latest Call(s) for Submissions, or instructions regarding formatting guidelines and copyright policy, please see the website: http://www.sigcas.org/. Submissions may be sent to [editors_sigcas@acm.org](editors_sigcas@acm.org).

However, as a contributing author, you retain copyright to your article or other material, and ACM will refer requests for republication directly to you.

**Membership Benefits**

- Subscription to the online publication ACM SIGCAS Computers and Society, which is published three to four times a year.
- Access to the full archive of the online publication and its printed predecessor in the ACM DL.
- Discounted registration fees for SIGCAS-sponsored conferences and workshops. "In cooperation" sponsor of several ACM and non-ACM conferences related to SIGCAS' interests, including LIMITS.

- SIGCAS presents two annual awards: The Making a Difference Award and the SIGCAS Outstanding Service Award.
- SIGCAS-ANNOUNCE mailing list: includes regular announcements of upcoming conferences and calls for participation. SIGCAS-Talk mailing list: enables member-to-member interactions, and the committee will seek to stimulate discussion on this list amongst members. Subscription to the list is restricted to SIGCAS members and is optional.

**Computers and Society Editorial Board**

Chinasa T. Okolo, The Brookings Institution

**Computers and Society Executive Committee**

Michelle Trim — SIGCAS Chair

Samuel Mann — SIGCAS Vice-Chair

Chinasa T. Okolo — Member-at-Large and Editor-In-Chief, *Computers and Society*

Brian Krupp — Member-at-Large

Mikey Goldweber — Past Chair

# From the Editor

by Chinasa T. Okolo

---

I'm proud to serve the ACM and SIGCAS community as the new Editor-in-Chief for *Computers and Society*. During my PhD, my work critically examined the role of human-centered AI and explainability in meeting the needs of community healthcare workers in rural India, who were predominantly novice AI users. Now, as a trained computer scientist working in public policy, my work focuses on examining how African governments can enable effective AI and data governance and analyzing datafication and algorithmic marginalization in Africa.

Over the past few years, I've had the opportunity to engage with SIGCAS, from attending and publishing in conferences such as the ACM Conference on Computing and Sustainable Societies (COMPASS) and reading issues of *Computers and Society*. I find the mission of ACM SIGCAS in bringing together computer professionals, specialists, and the general public to address concerns and raise awareness about the ethical and societal impact of computers inspiring. All of these stakeholders are crucial in advancing fundamental research on topics relevant to our communities, such as algorithmic bias, fairness, and responsible AI.

I look forward to working with the *Computers and Society* team and the rest of the SIGCAS Executive Committee to continue expanding our impact. As policymakers, civil society actors, and academics contemplate the ever-changing policy landscape, it will become increasingly essential to understand how human-centered computing and computing ethics will play a role. This fall, I'll commission my first special issue of Computers and Society, which will focus on the influences of human-centered computing on policy innovation. Please stay tuned for our call for submissions!

Chinasa T. Okolo, Ph.D.
Editor-in-Chief, ACM SIGCAS Computers and Society

# Call for Short Pieces

The SIGCAS Publications Committee aims to encourage more voices and varied perspectives on topics relevant to computers and society. In addition to longer pieces, we seek short pieces that are relevant, provocative, diverse, and unexpected for our issues of *Computers and Society*. Your short piece could raise arguments, issues, critical questions, resource needs, current work, research, reviews, discussions, etc. We currently plan to run several short pieces per issue.

To be considered for the next newsletter, please submit your short piece to the SIGCAS *Computers and Society* Editor-in-Chief, Chinasa T. Okolo, through email at editors_sigcas@acm.org. Submissions are due on September 15th, 2025 (the subsequent issue will be published on December 15th, 2025). Please include "Short Piece" in the subject line. Submissions should be a maximum of 1,200 words, drafted in Microsoft Word or Google Docs format, and references formatted in IEEE style.

SIGCAS Editors may be contacted at editors_sigcas@acm.org with questions about the *Computers and Society* newsletter submission process.

## SIGCAS *Computers and Society* Areas of Interest

Advanced Computing
Art, Media, Computing, and Society
Climate, Biodiversity, & the Environment
Computing Ethics Education
Conflict & Militarization
Civic Technology
Digital Privacy
Economic Development
Ethics & Responsible Computing

For or From The Archives
Gender & Women's Studies
Global Development Studies
Health & Medicine
History of Computing
Human Computer Interaction
Human Rights & Immigration
Information Security & Cybersecurity
Labor & the Workforce
Peace & Conflict Studies
Policy & Computing

Practitioner Perspectives
Public Opinion
Recent News & Reviews (Articles, Books, Movies, etc.)
Religion & Spirituality
Social Justice
Student Voices
Systemic Racism & Marginalization
Urban Computing & Smart Cities
User Experience & Design

# SIGCAS Special Topics Call for Contributions

## *Navigating the Influences of Human-Centered Computing on Policy Innovation*

The continuously evolving landscape of human-computer interaction (HCI) presents both opportunities and challenges for policy development. This special issue of Computers and Society, titled *"Navigating the Influences of Human-Centered Computing on Policy Innovation,"* will explore the intricate relationship between human-centered computing (HCC), emerging technologies (AI, quantum computing, blockchain, etc.), and policy innovation. It will examine how HCC principles can inform policy design, implementation, and evaluation, ultimately fostering more inclusive and effective outcomes for the public.

Articles, commentaries, and policy briefs within this issue will cover a broad range of critical themes. We welcome contributions investigating how user-centered design methodologies can be leveraged to create more inclusive and functional regulatory mechanisms. Contributions can also explore how HCC approaches can facilitate participatory policymaking while ensuring that citizen voices are effectively integrated throughout the policy lifecycle.

Additionally, this issue aims to tackle the ethical considerations of using HCC to inform AI-focused regulation in policy contexts, addressing issues such as algorithmic bias, data privacy, accountability, discrimination, and more. We also particularly encourage pieces that examine sociotechnical approaches to AI regulation, data governance, and data sovereignty in the Global Majority.

## Submission Details

Please submit your contributions to this Special Issue to SIGCAS *Computers and Society* through email at editors_sigcas@acm.org by September 15th, 2025 (the subsequent issue will be published on December 15th, 2025). Please include "SIGCAS Special Issue" in the subject line. Submissions should be a maximum of 2,500 words, drafted in Microsoft Word or Google Docs format, and references formatted in IEEE style.

# SIGCAS Works In Progress

by Brian Krupp

The SIGCAS Works In Progress program provides an opportunity for researchers to present their work and engage in discussions with the SIGCAS community. From my experience as both a presenter, attendee, and now host, I am not only amazed by the critical work that the community is engaged in, but have also received valuable feedback in my own research as well as learned of new research areas.

If you are interested in presenting at a SIGCAS Works in Progress session, there are three formats to choose from:

- Long Talk: 30-minute presentation followed by a joint Q/A with a Short Talk.
- Short Talk: 10-minute presentation followed by a joint Q/A with a Long Talk.
- Full Talk: 45-minute presentation followed by a Q/A.

If you are an undergraduate or graduate student engaged in a research project that is fairly new and want to share what you are doing and receive some feedback, a short talk may be a good fit. A Long or Full Talk might be an ideal fit if you have a research project that you have been engaged with for a longer time.

If you are interested in submitting a talk, please use the following form: https://bit.ly/SIGCAS-WIP-Presentation.

Below is a list of talks that we hosted in the past year:
- Dr. Chiara Gallese gave a talk on *"Social Bias in AI Systems"*
- Julia Gersey gave an opening talk on *"Fine-Grained Air Quality Sensing with Internet-of-Things"*
- Dr. Trystan Goetze gave a talk on *"Soothsayers, Illusionists, Con Artists, and 'Artificial Intelligence'"*

All submitted talks are reviewed by SIGCAS, and if it is appropriate with the SIGCAS community, we then coordinate with the author to schedule a day and time to present. All presentations are online using Zoom, and people are required to register in advance, and only those registered will be allowed in the session. This is to help prevent "Zoombombing".

The work of SIGCAS is more critical than ever, and dissemination of our work is sometimes not visible to the SIGCAS community. If you have work that is of interest to the SIGCAS community, we encourage you to submit a talk today!

# SIGCAS Web Administrator Volunteer Role

Are you passionate about web design and development? Looking for an opportunity to apply your skills and contribute to ACM SIGCAS? We seek a dedicated and talented web administrator to join our volunteer team.

**Responsibilities:**

- Maintain and update the SIGCAS WordPress website.
- Create engaging web content for organizational events and activities based on requests from the executive board.
- Improve the overall look and feel of the SIGCAS website through design enhancements (as time permits).

**Time Commitment:** Approximately 1-5 hours per week.

**Qualifications:**

- Strong proficiency in WordPress.
- Excellent writing and communication skills.
- Creative and detail-oriented.
- Ability to work independently and as part of a team.
- Graduate student/advanced undergraduate.

*To apply, please submit your resume and a brief cover letter to [michelletrim@umass.edu](mailto:michelletrim@umass.edu) and [editors_sigcas@acm.org](mailto:editors_sigcas@acm.org).*

# ARTICLE

## Balancing Act: Automated GenAI Outputs and Their Impact on Social Media Ecosystems

by Hrishitva Patel

University of Texas at San Antonio

**Abstract** Generative AI is reshaping social media by automating content creation, personalization, and distribution. While it enhances accessibility and engagement, it also raises concerns around misinformation, bias, and reduced human oversight. A case study using a Twilio-powered WhatsApp bot for NASA's Astronomy Picture of the Day highlights both the potential and the limitations of AI-generated captions. Balancing automation with human judgment is essential to ensure ethical, inclusive, and trustworthy digital ecosystems.

## Introduction

### The Promise and Perils of AI in Decision-Making

Artificial intelligence has redefined decision-making in sectors from streaming websites making recommendations on what to watch to medical practice, diagnosing illness. Its ability to scan enormous amounts of data and produce insights in a matter of seconds has seen it become a very efficient decision-making tool [1]. In medicine, for instance, AI models diagnose diseases faster than medical professionals. However, their performance also fails when not given proper oversight. In a test case, machine algorithms learned from a flawed dataset, leading to misdiagnoses and compromised patient safety [2].

These examples highlight the double-edged nature of AI. It makes operations more efficient, but has the capacity to do irreparable damage if solely relied upon when generating outputs.

The complexity of humans and their behavior, and their cultures, cannot be encoded as a set of data. It is therefore necessary for even highly accurate models to be overseen by humans to recognize errors, comprehend outputs, and make choices that are ethical and acceptable socially [3].

### Why Human Judgment Still Matters

Whereas AI is good at doing repetitive and data-intensive work, it lacks the emotional intelligence and ethical reasoning necessary in most real-world settings. To put this in context, most AI-powered customer service bots can give generic replies but cannot recognize frustration or show empathy [4]. On the other hand, human representatives bring contextual awareness, ethical judgment, and emotional sensitivity—key to dealing with complex social dynamics [5].

The challenge here is striking a balance. Too heavy a dependence on AI leads to sterile and

impersonal systems that ignore ethical complexities. Shunning AI means forgoing scalability and efficiency at the same time. An effective way forward marries algorithms' precision with humans' judgment and compassion [6]. When humans and AI work well together, not only do the results happen sooner, but they also become fairer, more flexible, and humane.
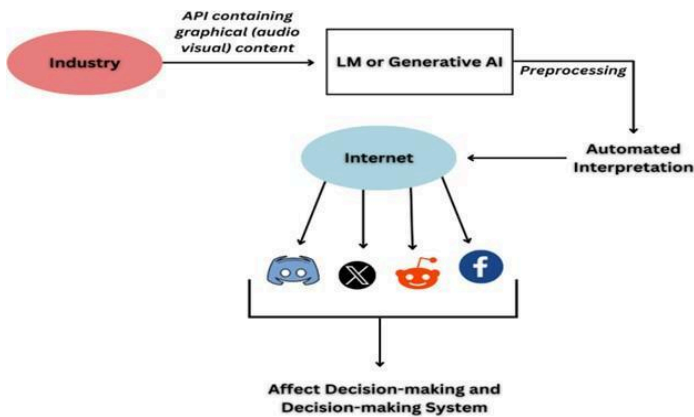


**Figure 1. How AI systems make decisions**

Figure 1 illustrates a forward-looking integrative model of automated content processing within a digital ecosystem. It traces the flow of industry-specific data as it is transmitted via an API to a generative AI system. The AI then generates an automated interpretation of the data, which is disseminated across various social media platforms. This processed content subsequently informs and influences decision-making systems, bridging the gap between raw data and actionable insights.

**The Power of AI in Social Media**

AI drives how users interact with social media today (Fig. 2). Platforms like X, TikTok, and Facebook use algorithms to personalize content, often anticipating users' interests with surprising accuracy. This tailoring can support engagement, creativity, and global communication.

Throughout the COVID-19 pandemic, platforms such as X leveraged AI to surface credible updates from trusted sources so that millions could access key health information [7]. TikTok's recommendation engine encourages innovation by serving hyper-personalized content, and algorithms from Facebook serve the purpose of flagging and removing toxic posts at scale [8].

However, the same personalization can encourage polarized content, the spread of falsity, and harm trust. AI tends to reward outrage and emotional response rather than facts, manipulating the discourse and harming our psychological well-being [13].



**Figure 2. AI in social media**

**Societal Impacts of AI-Generated Content Case Study**

To better understand the phenomenon, a Twilio-powered WhatsApp chatbot was implemented to broadcast interpretations of

NASA's Astronomy Picture of the Day (APOD) using a generative AI API (fig. 3). The goal was to evaluate the image recognition and descriptive capabilities of large language models (LLMs).
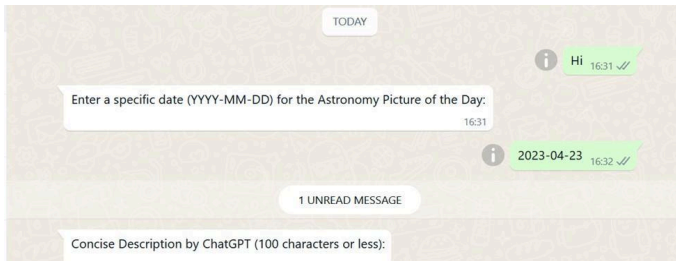


**Figure 3. NASA Twilio-powered WhatsApp bot for APOD descriptions**

For instance, the APOD below, dated April 23, 2023, was used to validate the chatbot. The NASA APOD API is used to access an image depending on the date. This image is then processed by the OpenAI API, which interprets and analyzes the image and generates a description. An example of the same is: "The image shows a waterspout stretching from a dark storm cloud to water, with a palm tree and sun behind." (fig. 4)



**Figure 4 Astronomy Picture of the Day (Credit: NASA, 2023)**

This could foster meaningful discourse, given its numerous real-world implications. As demonstrated above, automated descriptions can be simultaneously broadcast across multiple social media platforms. By converting visually complex scientific imagery into clear text descriptions, the system enhances accessibility for visually impaired individuals and enables broader engagement with visual data. In today's visually saturated digital environment, such accommodations are increasingly vital [10].

Beyond accessibility, captioning systems also improve discoverability. Descriptive metadata enhances searchability and has applications in fields such as journalism, education, and marketing, where indexing and clarity are crucial. Users with cognitive or language processing challenges benefit from concise and organized descriptions that reduce barriers to comprehension [4].

Nonetheless, this approach has limitations. Automatic captioning systems can replicate societal or cultural biases present in the training data used for generative AI. Research shows that non-representative captions may mischaracterize individuals, events, or cultural symbols—especially when datasets lack diversity [12].

Relying on machine-generated descriptions in journalism can also compromise editorial oversight. These descriptions may lack nuance or context in politically sensitive situations, potentially resulting in reduced credibility and factual accuracy [3].

Technical limitations exist as well. Vision-language models like GPT-4V sometimes misinterpret images, particularly

abstract or ambiguous ones. Studies reveal that convolutional neural networks (CNNs), which underpin many of these models, often focus on texture rather than shape, leading to errors (e.g., mistaking a zebra for a generic striped object) [12]. These limitations affect not only accuracy but also usability and public trust. Addressing these challenges requires inclusive design practices, diversified training datasets, and robust user feedback [5].

Such efforts highlight the promise of generative AI to make science more accessible. However, realizing this potential depends on embedding ethical safeguards and human-centered design throughout development [15].

## Conclusion

AI is reshaping how we interact with digital platforms. Its advantages—speed, personalization, and scalability—have reshaped platforms like Facebook and TikTok [7, 8]. Yet these same strengths can become vulnerabilities, contributing to the spread of misinformation, algorithmic bias, and diminished human oversight [2, 12].

Insights from ethical perspectives [3, 5], as well as technical analyses of convolutional neural networks (CNNs) [12] and generative models [13], point to the need for balance. AI performs best when paired with human judgment—bringing empathy, ethical reasoning, and cultural awareness into the loop [4, 6]. Whether moderating content or generating image descriptions, AI systems must be monitored and refined to serve human interests rather than optimize engagement alone [10, 11].

Ultimately, AI should complement—not replace—human values in digital spaces. Responsible design, transparent oversight, and inclusive technologies are essential for building platforms that empower users and minimize harm [1, 14].

## References

[1] A. Manoharan. 2024. Enhancing audience engagement through AI-powered social media automation. World Journal of Advanced Engineering Technology and Sciences, 11, 2 (2024), 150–157. https://doi.org/10.30574/wjaets.2024.11.2.0084

[2] Z. Obermeyer and E. J. Emanuel. 2016. Predicting the future—Big data, machine learning, and clinical medicine. New England Journal of Medicine, 375, 13 (2016), 1216–1219. https://doi.org/10.1056/NEJMp1606181

[3] L. Floridi and J. Cowls. 2019. A unified framework of five principles for AI in society. Harvard Data Science Review. https://doi.org/10.1162/99608f92.8cd550d1

[4] B. Hemsley, F. Given, B. Almond, et al. 2024. A critical review of literature on social media and developmental communication disability: Implications for future social media and generative AI research. Current Developmental Disorders Reports, 11 (2024), 75–89. https://doi.org/10.1007/s40474-024-00297-9

[5] K. Crawford. 2022. Atlas of AI: Power, politics, and the planetary costs of artificial intelligence. Perspectives on Science and Christian Faith, 74 (2022), 61–62. https://doi.org/10.56315/PSCF3-22Crawford

[6] M. Dorobantu, B. Green, A. Ramelow, and E. Salobir. 2022. Being human in the age of AI. https://doi.org/10.13140/RG.2.2.32037.58080

[7] F. Piccialli, V. S. Di Cola, F. Giampaolo, and S. Cuomo. 2021. The role of artificial intelligence in fighting the COVID-19 pandemic. Information Systems Frontiers, 23 (2021). https://doi.org/10.1007/s10796-021-10131-x

[8] T. Gillespie. 2020. Content moderation, AI, and the question of scale. Big Data & Society, 7 (2020). https://doi.org/10.1177/2053951720943234

[9] NASA. 2023. A waterspout in Florida. Astronomy Picture of the Day (April 23, 2023). https://apod.nasa.gov/apod/ap230423.html

[10] S. S. Roshan, M. Priyadharshini, and L. Kalinathan. 2023. Image caption generation for blind users of social media websites. https://doi.org/10.21203/rs.3.rs-2893615/v1

[11] T. Ghandi, H. Pourreza, and H. Mahyar. 2023. Deep learning approaches on image captioning: A review. ACM Computing Surveys, 56, 3 (2023), 1–39. https://doi.org/10.1145/3617592

[12] R. Geirhos, P. Rubisch, C. Michaelis, M. Bethge, F. A. Wichmann, and W. Brendel. 2019. ImageNet-trained CNNs are biased towards texture; increasing shape bias improves accuracy and robustness. In Proc. International Conference on Learning Representations (ICLR). https://openreview.net/forum?id=Bygh9j09KX

[13] J. D. Brüns and M. Meißner. 2024. Do you create your content yourself? Using generative artificial intelligence for social media content creation diminishes perceived brand authenticity. Journal of Retailing and Consumer Services, 79 (2024), 103790. https://doi.org/10.1016/j.jretconser.2024.103790

[14] W. Zhang, R. Yan, and L. Yuan. 2024. How generative AI was mentioned in social media and academic field? A text mining based on internet text data. IEEE Access, 12 (2024), 43940–43947. https://doi.org/10.1109/ACCESS.2024.3379010

[15] Cyber Defense Magazine. (2025, April). The looming shadow over AI: Securing the future of large language models. Cyber Defense Magazine. https://www.cyberdefensemagazine.com/the-looming-shadow-over-ai-securing-the-future-of-large-language-models/

---

*Want to contribute to Computers and Society?* The door is open, please walk through! We're all volunteers. Don't have time for a column? Send your ideas, comments, or suggestions to: editors_sigcas@acm.org.