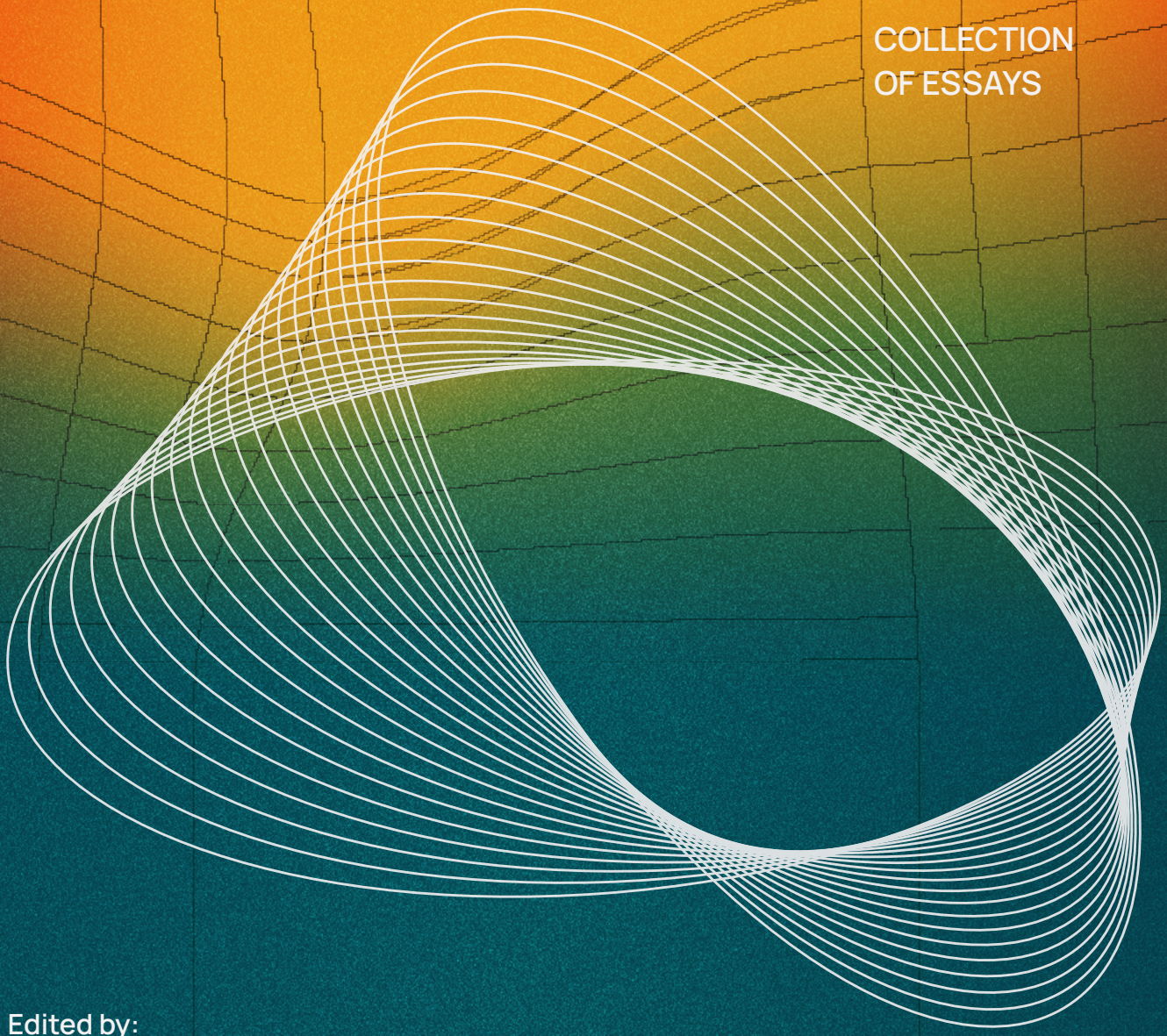
2025

Reimagining AI

For Environmental Justice and Creativity

COLLECTION OF ESSAYS



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Artificial Intelligence (AI) permeates academic, policy and economic debate. The United States is leading the critical discussion on its multilayered risks and perspectives, and yet, AI's cultural dimension remains underexplored. In contrast, Europe - and Italy in particular – has taken a slower, more cautious approach, advocating for AI that prioritize societal well-being over purely economic objectives. Europe has long emphasized the integration of digitalization with cultural policy, producing guidelines to ensure technology aligns with values of trust, creativity, adaptability, and social responsibility.[1] The European Union's AI Act exemplifies this vision, aiming for a human-centric and ethical use of AI.[2] However, the Act rarely addresses culture explicitly - a clear oversight given AI's reliance on cultural inputs such as texts, images, and values that shape its design and application. This omission expresses a gap in AI policy: the failure to consider cultural preservation, diversity, and local traditions, which often resist easy incorporation into predominantly techno-optimistic framework.

As scholars in urban technology, it is our responsibility to delve deeper into AI's role in cultural heritage and urban environments. We must explore and understand the social responsibilities associated with AI-driven infrastructures and test frameworks that support cultural diversity, encourage public participation, and uphold local governance.

AI in Urban Spaces: beyond a Passive Tool

AI offers numerous benefits for the valorization of cultural heritage. It enhances access to cultural resources, supports research, creates "memory insurance policies" for artifacts at risk of destruction, and adapts cultural content to evolving social contexts, fostering cultural continuity. However, as AI increasingly shapes cultural narratives, critical questions about accountability arise. Who bears responsibility when algorithmic decisions exacerbate social inequalities? Who is accountable for potential cultural polarization? Addressing these issues demands a clear framework for accountability in AI applications, particularly in urban environments where AI is evolving from a passive tool to an active agent of change.

Embedded AI systems collect data and inform public sphere dynamics, transforming cities into experimental grounds for AI-human interaction[3] without clearly defined boundaries for action. Urban AI plays a vastly more influential role, directly intervening in shaping social dynamics, cultural expressions, and even political engagement. As an urban agent, AI's influence over urban space can alter local identities and public sphere outcomes. AI-driven digital platforms are not neutral entities; they reflect the ideologies and power structures governing their design and deployment. Acting as political actors, these platforms influence information flows, public opinion, and even social movements, sometimes surpassing traditional governance in their societal impact. As a consequence, such systems risk exacerbating socio-political divides, privileging certain voices while marginalizing others. Data-driven urban regeneration can overlook local structural vulnerabilities, imposing one-size-fits-all models that fail to consider unique socio-political contexts. This evidence calls for frameworks that foster self-governance and draw from deliberative democracy encouraging local control over cultural narratives.

Visual tools, such as interactive and locally contextualized AI-generated images, can aid this effort by more effectively conveying urban and cultural nuances than abstract concepts. However, standard AI-generated imagery often risks homogenizing cultural representation, depicting similar architectural and commercial patterns that may not reflect local diversity. Here, an art-science approach can provide greater nuance. By involving artists in AI development, more inclusive visual representations of heritage can emerge - images that resonate with diverse cultural audiences. Artistic collaborations can introduce symbolic choices that balance simplicity and detail, avoiding the distractions of excessive digital realism. This approach can make AI-generated content both familiar and universal, enriching public understanding of local heritage while preserving its distinctiveness.

Civic Digital Twin: a High-Stakes Project for Local Governance

To counteract these risks while leveraging an art-science collaboration, a possible model is the "Civic Digital Twin". As demonstrated in Bologna (Italy) it is a project that combines local stakeholder collaboration to integrate citizen engagement into AI-driven urban planning. This project emphasizes two dimensions: focusing on the sociotechnical processes of reproducing cities rather than just technical models and recognizing the uniqueness of local urban cultural heritage instead of treating cities as abstract entities. This project considers AI as a "boundary object," operating across multiple contexts and serving as a site for experimentation and cross-disciplinary collaboration. By exploring alternative possibilities in both research and practice, the project shifts AI applications from passive observation to active societal participation.

The Civic Digital Twin sees AI as a form of relational infrastructure that can either exploit or bridge cultural divides, influencing who is included or excluded in public life. This digital platform reimagines urban landscapes, framing AI as an orientation tool-a "navigation map" for public life-that can critically evaluate its own role in promoting equitable access and civic representation. Cultivating this future literacy will transform uncertainty into a resource, enabling communities to co-create inclusive and resilient urban ecosystems.

By positioning AI as an essential and inclusive public infrastructure, society can engage in conversations that not only support technological advancement but also prioritize cultural diversity, civic engagement, and social responsibility.

ENDNOTES

1 Floridi, L. et al. (2018). "AI4People—An Ethical Framework for a Good AI Society." Minds and Machines.

2 European Commission (2021). Artificial intelligence act. European Parliament: European Parliamentary Research Service. Available at: https://www.iisf.ie/files/UserFiles/cybersecurity-legislation-ireland/EU-AI-Act.pdf

3 Floridi, L. et al. (2018). AI4People—An Ethical Framework for a Good AI Society. Minds and Machines.

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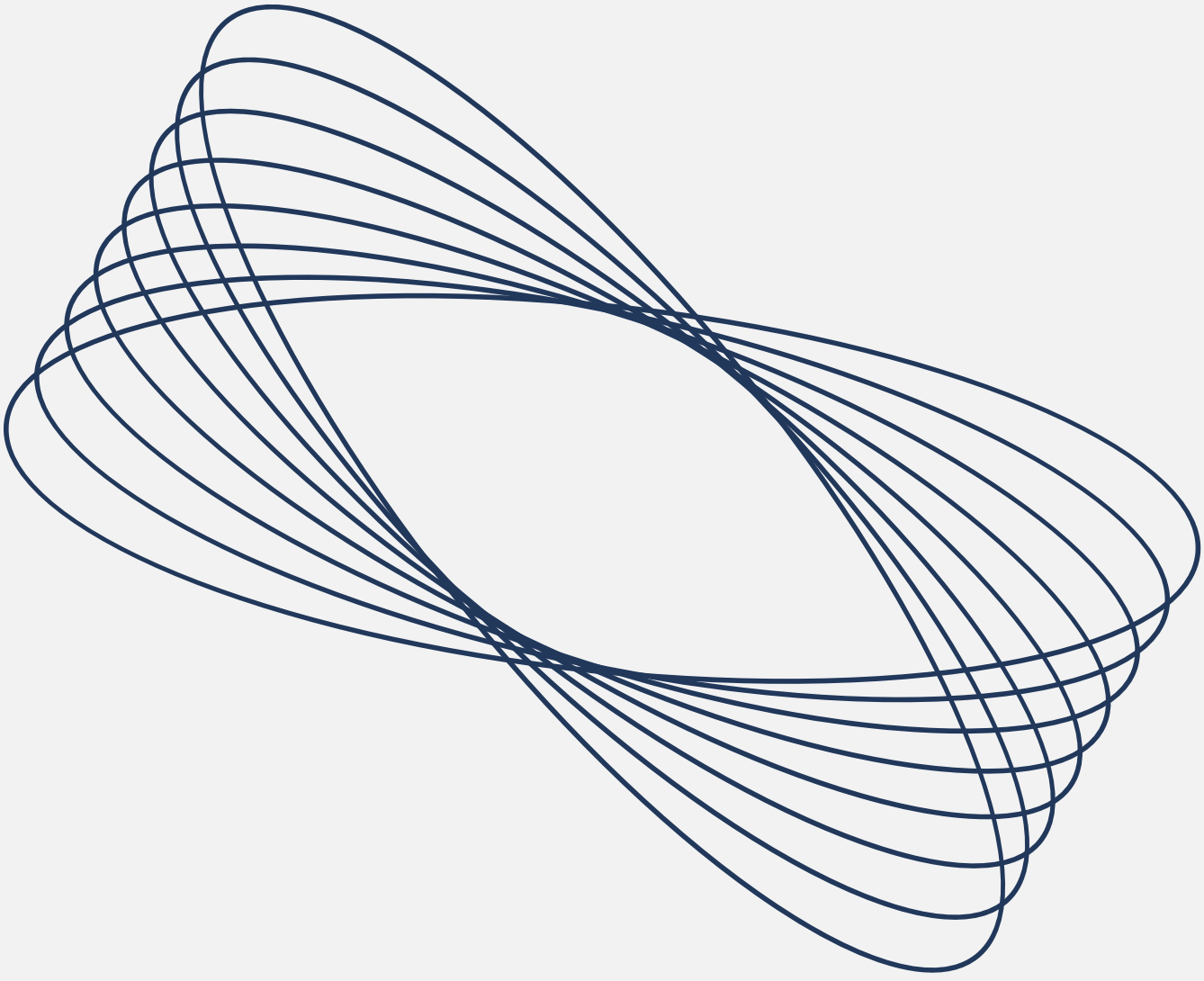

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Jess Reia is an Assistant Professor of Data Science and a Faculty co-lead at the Digital Technology for Democracy Lab at the University of Virginia. They are also a Visiting Scholar at Fudan University in Shanghai and a Non-Resident Fellow at the Center for Democracy & Technology in Washington, D.C. Reia works primarily on topics of data justice, human rights and technology policy transnationally. A policymaker by training, they have collaborated with governments for over a decade and conducted research that has been published in four languages. Reia is also a public scholar whose writing and interviews were featured in numerous outlets, including Estadão, Le Devoir and BBC. Before joining UVA, they were appointed Mellon Postdoctoral Researcher at McGill University and worked at the Center for Technology & Society at FGV Law School in Rio de Janeiro.

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MC Forelle is an assistant professor in Engineering and Society at the University of Virginia School of Engineering and Applied Science. Their work examines the intersection of law, technology, and culture, focusing on materiality, sustainability, and practices of resistance and change. Their current book project studies the paradigm shift in repair presented by software-enabled, autonomous, and connected automotive technologies – particularly with the global rise of internal combustion engine bans – and the failure of industry or government in accounting for the long horizon of automotive devices and infrastructures. They are also exploring new approaches to studies of the supply chains involved in semiconductor manufacturing, use, maintenance, and disposal. Prior to joining UVA, MC was Cornell Presidential Postdoctoral Research Fellow, and received their PhD in Communication from the University of Southern California Annenberg School for Communication and Journalism.

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Yingchong Wang is an Andrew Mellon Postdoctoral Researcher in the School of Data Science at the University of Virginia. Her work explores creative tourism, responsible AI implementation in cultural organizations, and data-informed policy for creative planning. With academic experience spanning multiple countries and institutions like the Palace Museum in Beijing and Lincoln Center, Yingchong built her expertise through a Ph.D. from Ohio State University's Department of Arts Administration, Education, and Policy, a master's in Arts Management from Carnegie Mellon University, and a B.A. in English from Tsinghua University. Beyond her academic pursuits, she is an accomplished cellist who won first prize at the 2019 Osaka International Music Competition in the China region. Yingchong is currently leading a research project on the ethical implementation of large-scale models in museums at UVA School of Data Science.

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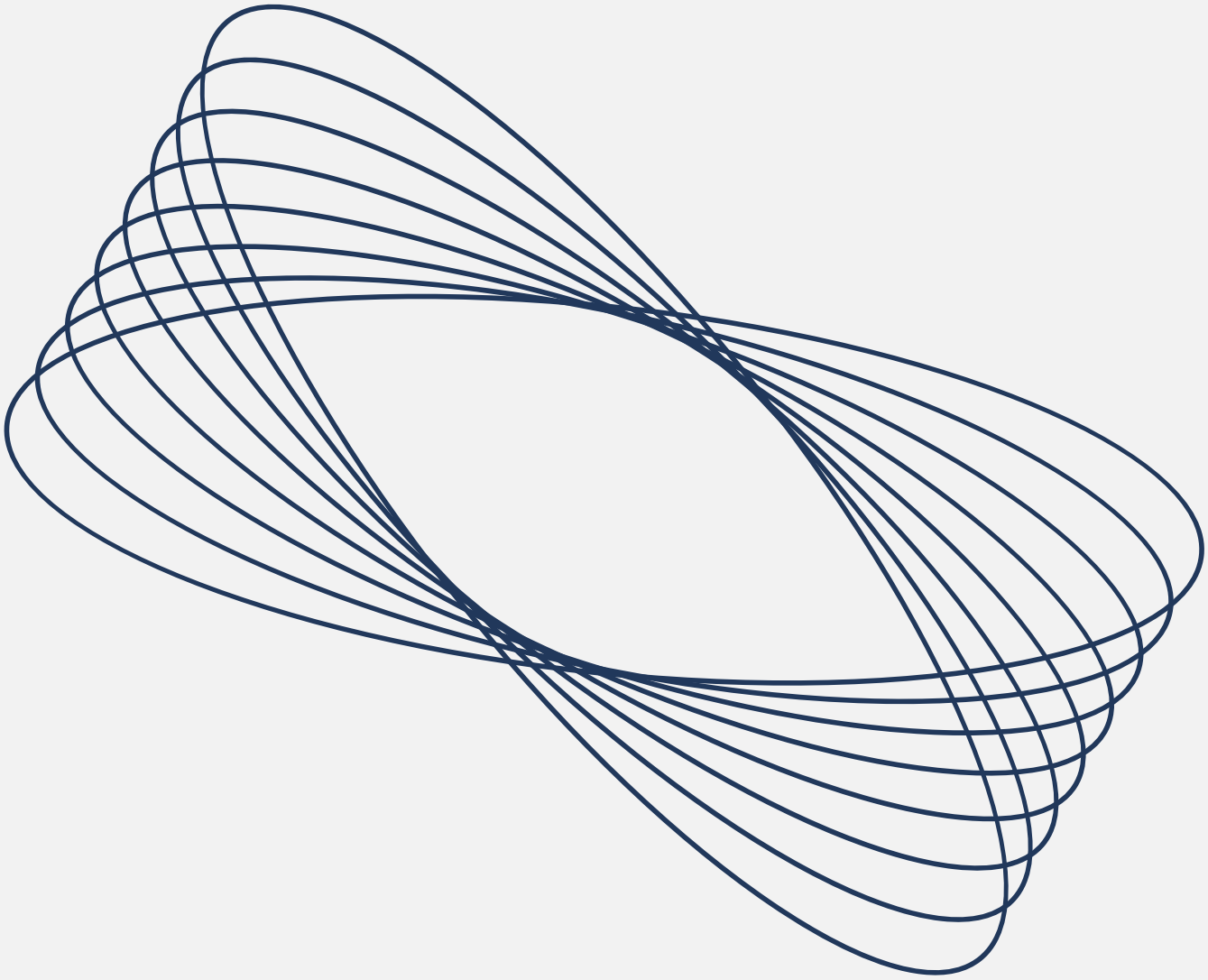

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