

Artificial Rural Intelligence? Rethinking Expertise, Technology, and Rural Futures

Artificial intelligence (AI) and large language models (LLM) have the potential to transform rural communities, regional development, and urban–rural relations. As active entities that redistribute agency among humans and machines, AI and related technologies will shape how people, institutions, and machines interact and influence rural futures. Drawing on classical social science theories and contemporary debates, this paper conceptualizes LLMs as a form of synthetic social capital, offering rural residents access to the vast reservoir of global human knowledge while simultaneously threatening to erode tacit expertise and local cultural systems. It is important to monitor and evaluate the impact of AI in general and LLMs in particular on all aspects of rural life, including but not limited to rural labor markets, service provision and municipal capacity, the value and circulation of knowledge, social relations, cohesion, and cultural life, and sustainability and justice in resource use. These dynamics place AI at the center of struggles between empowerment and exclusion, peripherality and connection, surveillance and solidarity. The imagined utopias and dystopias of AI futures are not technological inevitabilities but may help us focus on alternative futures that must be actively imagined, debated, and pursued.

AI has the potential to transform rural communities and urban-rural relations. It is a prime example of technology as a non-human actant that enters into heterogeneous networks and redistributes agency among humans and non-humans alike (Callon 1984; Latour 2005; Law 1992). In other words, AI should not be considered a passive tool but rather an active entity that shapes how people, institutions, and other technologies interact and influence rural futures.

The internet has created a vast reservoir of human knowledge and skills that, in principle, reduces differences in specialized human capital between urban and rural areas. However, utilizing this accumulated human capital requires the abilities to locate, evaluate, process and apply these data, and such abilities are also concentrated in urban areas. Just as social capital allows people to tap into the human capital of others through interpersonal relations (Coleman, 1988), LLMs can be seen as a type of synthetic social capital that enables anyone to tap into the accumulated electronic human capital of the internet. This conceptualization helps us move beyond deterministic accounts of “impact” and focus instead on how synthetic social capital is enacted in practice and how reshapes the fabric of rural communities.

Rural studies must grapple with the ways AI reshapes networks of solidarity, extends knowledge spillovers, influences spatial relations and mediates between intimacy and complexity in the twenty-first century countryside. AI may reduce or amplify existing inequalities, strengthen or erode local and tacit knowledge, enrich or impoverish social and cultural life, bolster ecological stewardship or intensify extractive pressures in favor of large corporations. This is a fertile terrain for empirical studies and theoretical innovation in rural studies.

This special issue of the *Journal of Rural Studies* invites both empirical and theoretical contributions that critically explore the challenges, inequalities and transformative potentials of these technologies in the context of rural communities.

Shucksmith (2018) has argued that the „good countryside“ is a social and political project that needs to be shaped through public debate, using utopia as a tool for imagining and pursuing alternative rural futures. In this context it is important to note that the imagined utopias and dystopias of AI futures do not represent technological inevitabilities but alternative futures that must be actively imagined, contested, and pursued.

We welcome papers that engage with the social, economic, political, and cultural dimensions of AI and related digital infrastructures, particularly as they intersect with questions of expertise, knowledge access, and rural agency. We expect interest from scholars working on a wide range of social sciences including, but not limited to, science and technology studies, geography, sociology, political studies, business studies, planning, public administration and futurology.

Potential topics include but are not limited to the following:

- Implications for rural economies (including agriculture, resource extraction, entrepreneurship)
- Deskilling and reskilling in specific sectors
- Education and systems of knowledge
- Governance, policy and rural proofing
- Power, hegemony and resistance
- Digital divides and urban biases in technology
- The provision of public services
- Innovation, entrepreneurship, and rural adaptability
- Global and comparative perspectives
- Imaginaries of technologies and rural futures

The special issue is scheduled for publication in 2027, see timetable below.

For further information contact

Thoroddur Bjarnason, University of Iceland, thoroddur@hi.is

Ruth McAreavey, Newcastle University, ruth.mcareavey@newcastle.ac.uk

Submission of abstracts due end July 2026

Review of abstracts and author invitation end September 2026

Submission of papers for internal review end December 2027

Submission of papers for anonymous peer review end March 2027

Completion of special issue end 2027 - subject to review process.

(note all dates are subject to the review process)