

# Artificial Intelligence is already here, but it's not evenly distributed

**Authors:** Jieshu Wang ([jwang490@asu.edu](mailto:jwang490@asu.edu))

**Affiliation:** School for the Future of Innovation in Society (SFIS) at Arizona State University

**Abstract:** Artificial Intelligence (AI) has been developing with remarkable speed in recent decades and shows tremendous potential in many areas. It has been believed that AI has the potential to become a general-purpose technology and serves as a “new method for invention” that facilitates development in other disciplines. However, if AI development is unevenly distributed in the world, the benefit of AI cannot be enjoyed equally, and some groups will be more vulnerable than others when facing the threats and challenges brought by AI. It raises the question of how equal AI development is distributed. This study builds on a dataset of over 320,000 AI publications from Web of Science (WOS) and explores the geographic, disciplinary, and gender diversity in global AI research. I found that, even though the number of countries that are engaging in AI research has been growing, most countries have very few AI publications. China and USA have been overwhelmingly dominating AI research. Therefore, geographic diversity of AI is low and has been declining in the recent decade. However, international collaborations are growing and becoming impactful. From a disciplinary perspective, Engineering and Computer Science are the two research areas that have observed the most AI publications. Social Sciences and Arts & Humanities are the least productive. Disciplinary diversity index is very low but has been gradually increasing in recent two decades. Interdisciplinary research has created higher impact than single-disciplinary research. From a gender perspective, AI is evidently a male-dominated field. However, collaborations between females and males are growing and have produced high impact. My

research implies that AI governance should be localized because different levels of AI development may lead to completely different challenges. In addition, international collaborations, interdisciplinary collaborations, and gender collaborations should be encouraged in order to ensure a more equal and equitable discussion about AI so that AI's benefit is distributed evenly and concerns about AI from minority groups are heard and addressed.