

AUTOMATION

Hidden human costs of AI

A sociologist interrogates the invisible labor that underlies “autonomous” systems

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Sociologist Antonio Casilli's newly updated 2019 book *Waiting for Robots*, translated into English by Saskia Brown, offers a nuanced critique of automation and artificial intelligence (AI). In it, Casilli leverages his academic expertise to expose the intricate, often invisible human labor that supports these systems. At its core, the book challenges the idea of fully autonomous AI.

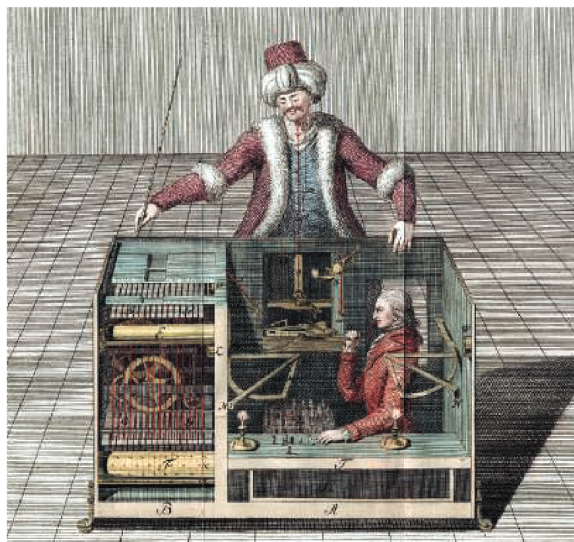
Structured into three parts, the book systematically unpacks the complexities of digital labor. The first section critiques the idea that AI eliminates human work, suggesting instead that it reconfigures labor in ways that obscure its value. The second section provides vivid examples of how digital platforms exploit three kinds of human labor: “on-demand work, microwork, and social media work.” The final section examines the global inequalities perpetuated by these systems, proposing solutions such as platform cooperatives and redistributive income models.

Central to Casilli's argument is the concept of “artificial artificial intelligence,” a term he uses to describe how “human input is a major component of all artificial intelligence tools.” Platforms such as Amazon Mechanical Turk, Uber, and Facebook, for example, extract value from human effort through tasks such as data annotation, content moderation, and algorithm training. Casilli links this “microwork”—fragmented, small-scale, and often low-paying forms of labor that obscure the broader purpose of tasks while perpetuating the illusion of fully autonomous technology—to historical patterns of geopolitical exploitation.

Microwork, he writes, reveals a “new international division of labor”—hidden, underpaid, and unstable—where jobs in the Global North are not necessarily being automated

by machines but are instead outsourced to digital migrants in the Global South. By connecting the precarious conditions of hidden workers to these systemic patterns, Casilli sheds light on the vulnerabilities and inequities underpinning the digital economy.

Building on this idea, the book next examines multisided markets, where platforms mediate interactions to extract value. Casilli offers insights into how video platforms monetize viewers by selling advertising space, often without compensating content creators directly. Similarly, he dissects Uber's surge pricing model, which raises fares during peak demand periods. While this system incentivizes drivers, it also provides Uber



Hidden human effort has a long history in automation.

with valuable behavioral data, illustrating the asymmetry of value distribution in digital economies, where platforms benefit disproportionately from user participation and labor. (For scientists, Casilli's critique extends naturally to the scientific publishing ecosystem, where peer reviewers contribute unpaid labor that is essential to maintaining the rigor of scholarly research.)

The book explores how platforms blur the line between work and play, a phenomenon referred to as “playbor.” Gamified tasks such as reCAPTCHA exemplify this trend, as participants unknowingly engage in unpaid labor disguised as simple, interactive activities. While Casilli questions the appropriateness of the term, observing that it “disregard[s] the

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fact that platform work can be tedious and time-consuming,” his analysis raises critical ethical questions about manipulation and the erosion of informed consent in the digital age.

Beyond labor, Casilli examines the commodification of user data and metadata, uncovering how platforms extract value from records of consumer behaviors, interactions, and social connections. This practice raises considerable concerns about surveillance, privacy, and the exacerbation of global inequalities.

Although Casilli effectively critiques the heavy reliance on human labor in AI systems, he does not fully engage with recent technological developments in unsupervised and semisupervised learning. Innovations such as self-play learning, as exemplified by systems such as Google's AlphaZero, and the use of physically based data augmentation challenge the assumption that AI automation remains fundamentally dependent on manual labeling. Acknowledging these advancements could have added nuance to Casilli's argument, providing a more comprehensive view of the evolving interplay between human labor and machine learning.

The book concludes with a thought-provoking proposal for collectivist data ownership that aims to address the imbalances and exploitation inherent in platform capitalism's approach to data. Here, Casilli suggests that “data could become the direct, indivisible, and inalienable collective property of its users” and encourages readers to envision alternative structures for a fairer and more inclusive digital economy.

Overall, *Waiting for Robots* makes a substantial contribution to the discourse on digital labor and platform capitalism. Casilli's incisive analysis of the hidden human costs of AI, combined with his clear and engaging prose, establishes the book as essential reading for those seeking to understand the ethical and social dimensions of technology. By dismantling the conventional wisdom surrounding AI and exposing the labor that underpins it, Casilli offers a compelling framework for envisioning a more equitable and inclusive digital future. ■

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