

# Review of: "A Perspective for Economic and Social Unfoldings of AI"

Jacob Rubæk Holm<sup>1</sup>

<sup>1</sup> Aalborg University

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In the words of the author this paper is a “positional paper”. To the reader it appears as the manuscript of a lecture. It invites, or even provokes, debate rather than present novel research.

I consider myself an optimist with regards to the impact of AI on economies in the sense that I believe that AI will not destroy jobs (net) but rather create new opportunities for economic growth. This also means that I am somewhat sceptic of the abilities of AI. Thus, I found the discussions that the author seeks to provoke entertaining.

The introduction of the paper sets a pessimistic tone. The author suggests that firms rush into automation with AI with insufficient information, and that this has negative consequences for employees, and for the output of the automated tasks. This is not well substantiated but in the style of the manuscript it would probably be more appropriate with anecdotal evidence than reference to systematic research. In general, it is when the author moves from discussion of abstract models and methods to specific examples and cases that the manuscript really provokes discussion.

In the second section of the manuscript the author discusses whether it makes sense to use the terms Artificial >>Intelligence<< and Machine >>Learning<< without clear definitions of the concepts of >>Intelligence<< and >>Learning<<. This is a valid point and there is room for further discussion. Is intelligence categorical and something only humans possess? Or is it a continuum, where we can talk of near human intelligence among animals that make and use tools, have complex social structures, or advanced communication. It recalls a variant of the “infinite monkey theorem”: Give a monkey a typewriter and use positive feedback to make the monkey write coherent sentences for food. Has the monkey then in any sense learned to write? Has monkey intelligence evolved to challenge human intelligence? The preceding thoughts are of course a digression into the type of debate that the author seeks to provoke rather than review of the manuscript. The point is that the author raises a relevant point but could extend the discussion by considering research or anecdotes on the meaning of intelligence and learning – for example from nature.

Section 3 of the manuscript contains recommendations for policymakers, management, and scientists. Some of these are relatively generic and pertain to new technologies in general – for example the recommendations for education. A point that is missing here and which I believe is quite characteristic of AI is that some of the tasks automated with AI are the tasks performed by people who have just entered the occupation, and who traditionally rely on these tasks to build the experience necessary for career advancement. When AI takes over these tasks a shortage of experienced people qualified for more senior positions follows in time. Anecdotal evidence suggests that this is already happening in the legal

profession. Something similar could happen to programmers, cf. the author's discussion in section 3.3.

The main point that I think could be expanded in section 3 of the manuscript is the role of data. Machine learning algorithms are largely 'on hand inventory' and it is the unique data that a firm feeds into the algorithm that creates a competitive advantage for the firm. This makes data a valuable resource creating new strategic priorities for firms. It also creates policy considerations as policymakers balance individuals' rights to privacy with firms' need for data.

Section 4 deviates somewhat from the style of the manuscript by discussing merits and opportunities in specific technologies. This section appears more optimistic and deviates from the lecture style of the earlier sections in its high degree of technicality. But the author also points to a number of risks associated with the technologies. Not least the problems arising from training on biased or otherwise bad data, and the problems of dealing with false positives and false negatives produced by the AI (type I and type II errors). There is room for improving the manuscript by better integrating the insights in section 4 with the earlier sections.

All in all I find the manuscript thought provoking and a good starting point for a casual debate.