

# Responsible Robotics: Shaping our Future with Robotics

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In recent years, there has been a growing concern about the present and future role of robotics on our societies. This discussion has grown beyond solely the scope of technology and logistics; it now demands the attention from experts in the social sciences and humanities to explore these issues in the contexts of law, ethics, and policy. In this workshop, directed by the Foundation for Responsible Robotics and hosted at the Lorentz Center, experts from fields ranging from psychology to philosophy met to share knowledge and discuss our key question: what is responsible robotics?

The goal of this workshop was to craft a sufficiently clear and substantive definition of responsible robots that could guide future research and policy making. In doing so, the workshop also considered such issues as:

- What are the biggest threats to responsible robotics?
- Which means should responsible robotics pursue: should it aim for regulation, standardization, public awareness raising, or the introduction of new interdisciplinary research paradigms?
- Who is responsible for the impact of robotics on workers?
- Should robotics be broadly available to the public, and under what kinds of regulations?
- Can, or should, robots have rights?  
Should responsible robotics take different forms when it addresses different types of robots used in society, for example care robots versus sex robots? Is responsible robotics primarily concerned with social robots i.e., robots with social 'skills', or is the primary target the increased use of robots in society, independently of the particular software features of these?
- How will data protection be managed in the near future?
- Are screenwriters stigmatizing AI and creating a negative perception that discourages innovation?
- Why do we need the notion of responsible robotics NOW, i.e., why are the relevant goals of responsible robotics not already covered by the goals of "Responsible Innovation"?

The field of robotics is developing rapidly and this constant change presents a challenge to formulating foundational ethical principles, as new concerns arise with each new innovation. The interdisciplinary format of this workshop allowed experts to share differing perspectives on the obstacles present in designing a responsible future with robotics.

Key points that arose throughout the workshop included the necessity of responsible robotics being integrated into every stage of the production process as well as the need for consulting diverse perspectives in these processes. Responsible robotics as a concept must be applied from initial design phases, through to development, production, and implementation. As robotics applications increase and become more embedded into daily life, engineers are being faced with problems that go beyond the scope of their technical training, such as foundational questions of ethics and psychology. Participants concluded that including the perspectives from experts in these fields is as crucial to the development process as the technical aspects.

The workshop consisted of presentations by various participants, which introduced key questions that guided group discussions. At the conclusion of the workshop, the outcomes of these discussions were brought together to be synthesized into a white paper. This forthcoming document will be published on the Foundation for Responsible Robotics website, to be available to academics, policymakers, and the public in guiding future discussions on the topic.

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