

VIENNA MANIFESTO ON DIGITAL HUMANISM

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»**The system is failing**« — stated by the founder of the Web, Tim Berners-Lee — emphasizes that while digitalization opens unprecedented opportunities, it also raises serious concerns: the monopolization of the Web, the rise of extremist opinions and behavior orchestrated by social media, the formation of filter bubbles and echo chambers as islands of disjoint truths, the loss of privacy, and the spread of digital surveillance. Digital technologies are disrupting societies and questioning our understanding of what it means to be human. The stakes are high and the challenge of building a just and democratic society with humans at the center of technological progress needs to be addressed with determination as well as scientific ingenuity. Technological innovation demands social innovation, and social innovation requires broad societal engagement.

This manifesto is a call to deliberate and to act on current and future technological development. We encourage our academic communities, as well as industrial leaders, politicians, policy makers, and professional societies all around the globe, to actively participate in policy formation. Our demands are the result of an emerging process that unites scientists and practitioners across fields and topics, brought together by concerns and hopes for the future. We are aware of our joint responsibility for the current situation and the future — both as professionals and citizens.

Today, we experience the co-evolution of technology and humankind. The flood of data, algorithms, and computational power is disrupting the very fabric of society by changing human interactions, societal institutions, economies, and political structures. Science and the humanities are not exempt. This disruption simultaneously creates and threatens jobs, produces and destroys wealth, and improves and damages our ecology. It shifts power structures, thereby blurring the human and the machine.

The quest is for enlightenment and humanism. The capability to automate human cognitive activities is a revolutionary aspect of computer science / informatics. For many tasks, machines surpass already what humans can accomplish in speed, precision, and even analytic deduction. The time is right to bring together humanistic ideals with critical thoughts about technological progress. We therefore link this manifesto to the intellectual tradition of humanism and similar movements striving for an enlightened humanity.

Like all technologies, digital technologies do not emerge from nowhere. They are shaped by implicit and explicit choices and thus incorporate a set of values, norms, economic interests, and assumptions about how the world around us is or should be. Many of these choices remain hidden in software programs implementing algorithms that remain invisible. In line with the renowned Vienna Circle and its contributions to modern thinking, we want to espouse critical rational reasoning and the interdisciplinarity needed to shape the future.

We must shape technologies in accordance with human values and needs, instead of allowing technologies to shape humans. Our task is not only to rein in the downsides of information and communication technologies, but to encourage human-centered innovation. We call for a Digital Humanism that describes, analyzes, and, most importantly, influences the complex interplay of technology and humankind, for a better society and life, fully respecting universal human rights.

In conclusion, **we proclaim the following core principles:**

- **Digital technologies should be designed to promote democracy and inclusion.** This will require special efforts to overcome current inequalities and to use the emancipatory potential of digital technologies to make our societies more inclusive.
- **Privacy and freedom of speech are essential values for democracy and should be at the center of our activities.** Therefore, artifacts such as social media or online platforms need to be altered to better safeguard the free expression of opinion, the dissemination of information, and the protection of privacy.
- **Effective regulations, rules and laws, based on a broad public discourse, must be established.** They should ensure prediction accuracy, fairness and equality, accountability, and transparency of software programs and algorithms.
- **Regulators need to intervene with tech monopolies.** It is necessary to restore market competitiveness as tech monopolies concentrate market power and stifle innovation. Governments should not leave all decisions to markets.
- **Decisions with consequences that have the potential to affect individual or collective human rights must continue to be made by humans.** Decision makers must be responsible and accountable for their decisions. Automated decision making systems should only support human decision making, not replace it.
- **Scientific approaches crossing different disciplines are a prerequisite for tackling the challenges ahead.** Technological disciplines such as computer science / informatics must collaborate with social sciences, humanities, and other sciences, breaking disciplinary silos.
- **Universities are the place where new knowledge is produced and critical thought is cultivated.** Hence, they have a special responsibility and have to be aware of that.
- **Academic and industrial researchers must engage openly with wider society and reflect upon their approaches.** This needs to be embedded in the practice of producing new knowledge and technologies, while at the same time defending the freedom of thought and science.
- **Practitioners everywhere ought to acknowledge their shared responsibility for the impact of information technologies.** They need to understand that no technology is neutral and be sensitized to see both potential benefits and possible downsides.
- **A vision is needed for new educational curricula, combining knowledge from the humanities, the social sciences, and engineering studies.** In the age of automated decision making and AI, creativity and attention to human aspects are crucial to the education of future engineers and technologists.
- **Education on computer science / informatics and its societal impact must start as early as possible.** Students should learn to combine information-technology skills with awareness of the ethical and societal issues at stake.

We are at a crossroads to the future; we must go into action and take the right direction!

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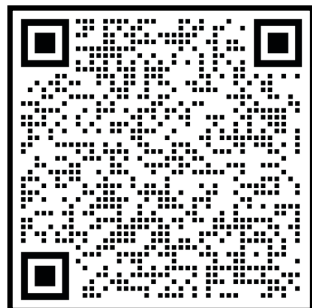
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