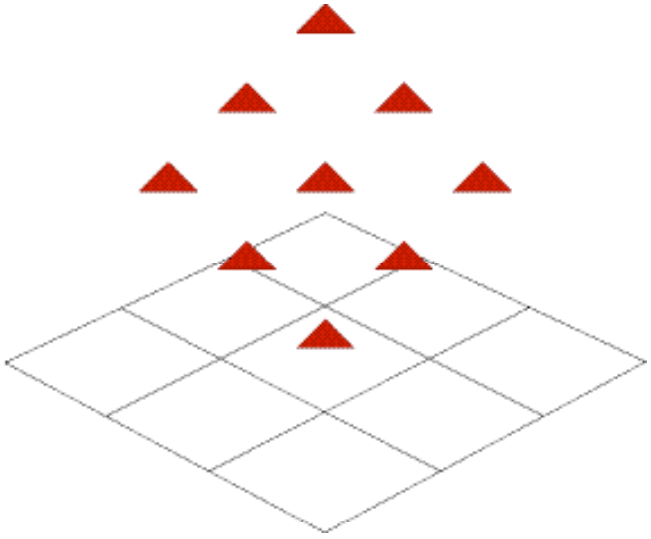

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Papers from the AAAI Fall Symposium

Technical Report FS-05-06

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Preface

Past research concerning the relationship between technology and ethics has largely focused on responsible and irresponsible use of technology by human beings, with a few people being interested in how human beings ought to treat machines. In all cases, only human beings have engaged in ethical reasoning. The time has come for adding an ethical dimension to at least some machines. Recognition of the ethical ramifications of behavior involving machines, as well as recent and potential developments in machine autonomy, necessitate this. In contrast to computer hacking, software property issues, privacy issues and other topics normally ascribed to computer ethics, machine ethics is concerned with the behavior of machines towards human users and other machines.

We contend that research in machine ethics is key to alleviating concerns with autonomous systems—it could be argued that the notion of autonomous machines without such a dimension is at the root of all fear concerning machine intelligence. Further, investigation of machine ethics could enable the discovery of problems with current ethical theories, advancing our thinking about Ethics. This symposium brought together participants from a wide variety of disciplines to the end of forging a set of common goals for machine ethics investigation and the research agendas required to accomplish them. Topics included:

- improvement of interaction between artificially and naturally intelligent systems through the addition of an ethical dimension to artificially intelligent systems
- enhancement of machine-machine communication and cooperation through an ethical dimension
- design of systems that provide expert guidance in ethical matters
- deeper understanding of ethical theories through computational simulation
- development of decision procedures for ethical theories that have multiple prima facie duties
- computability of ethics
- theoretical and practical objections to machine ethics
- impact of machine ethics on society

The symposium was comprised of invited speakers, paper and poster presentations, and system demonstrations. It was an interesting, informative, and productive exploration of this important emerging topic.

Further information regarding machine ethics can be found at http://www.MachineEthics.org.

Michael Anderson, Susan Leigh Anderson, and Chris Armen