

## Ethics report

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### SLO4.1

Kettering's code of ethics puts a large focus on honesty and academic integrity both as students learning, and when doing research. From the University ethical and behavioral standards:

"We do not tolerate or condone dishonesty by anyone in any form including fraud, theft, cheating, plagiarism, lying, deliberate misrepresentation, scientific fraud, cheating, invidious discrimination or the misuse of University funds or property." Academic integrity is important to the individual because without it, the person being dishonest will learn less. It is important to research not only because falsified or misleading research takes time and resources to disprove, but also because misleading research can and has cost lives.

The ACM code of conduct talks about honesty more in the context of not misleading someone about the capabilities of something you have built. "A computing professional should be transparent and provide full disclosure of all pertinent system capabilities, limitations, and potential problems to the appropriate parties." This is especially important in the automotive industry, because software work is both safety critical, and under extreme price and time pressure. This leads to competing incentives between cost and safety meaning anyone working in the field must be extremely careful not to compromise their ethics. The IEEE code of ethics reflects this nicely in its first paragraph. "to hold paramount, the safety, health, and welfare of the public, to strive to comply with ethical design and sustainable development practices, to protect the privacy of others, and to disclose promptly factors that might endanger the public or the environment."

### SLO4.2

From Kettering's code, "We do not tolerate unlawful discrimination or harassment on the basis of personal characteristics or beliefs." And from ACM code. "Computing professionals should foster fair participation of all people, including those of underrepresented groups. Prejudicial discrimination on the basis of age, color, disability, ethnicity, family status, gender identity, labor union membership, military status, nationality, race, religion or belief, sex, sexual orientation, or any other inappropriate factor is an explicit violation of the Code." The IEEE code also has an almost identical statement in rule 7. These rules regarding discrimination are important for several reasons. First and foremost, all humans deserve fair treatment regardless of things out of their control. Secondly, not tolerating discrimination is important to the rest of society because the factors mentioned in the three codes here are not indicative of the persons ability to contribute to society or a team they work with.

### SLO4.3

The impact of AI and Machine learning over the next decade or three will be significant. Machine learning allows processes of all kinds to be automated, leading to them being faster, safer, and cheaper.

One area to look at specifically is autonomous driving. because self driving cars are safer than manually driven cars the costs in human life, and the significant expenditure on crashes will be drastically reduced. Self driving cars also have the potential to reduce the total number of cars in existence while reducing the cost of transportation.