

# Report Submission

CON101- Introduction to Computer Science and Engineering

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## 1 Introduction

Images play a very important role in everyone's life. Be it image filters, legal proofs, data processing and advanced things like cancer detection, terrorist detection by face recognition. Computer vision has a vast use in our day to day life.

Many upcoming startups are backed by AR/VR technologies or self-driving cars that require imagery and its processing at a heavy scale.

In the world of social media, displaying ourselves is another struggle that everyone faces. Youth is hence loving these cool snapchat and instagram filters which is again based upon image processing. As we all are aware of that Data is the new oil and the fact that images/videos are rich source of data. Every good trained machine learning model is backed by strong dataset.

**“With great power comes great responsibility”**. Many experts suggests that CV and in general Artificial Intelligence have a lot of ethical issues embedded in them. Six categories of different ethical issues were recognised, which are identity theft, malicious attacks, copyright infringement, discrimination and misinformation. Let's discuss them in detail.

## 2 Ethical concerns regarding CV

1. Recently an african was recognised as a gorilla by face recognition which raise a lot of concerns of racism getting transferred from humans into technology.
2. Health insurance price raised up after predicting diseases, bad habits (smoking, drinking etc.) though CV.
3. Blackmailing people through photoshop and removing evidence from photos that would have otherwise proven a scam/crime.
4. Improper handling of the dilemma of self-driving car to hit a child, lady or a stray dog in a situation when it cannot stop due to technical glitch.

5. AI winning against world champions in games like chess also ruins the beauty of the player and sometimes the game as a whole.

### 3 Other issues related to CV and AI

1. **Security issues.** If many predictions are made by CV in future (for example detecting cancer cells), its security would require even more robustness.
2. **Privacy issues.** Considering the example of self-driving cars that have cameras and sensors all around to use image processing. Presence of such things would kill the privacy of the individual and others nearby.
3. **Mass unemployment.** This is more of administrative problem than technical. But we can't deny the fact that AI and CV will eat up a lot of jobs that require "labour work" so far.

### 4 Steps for improvement

1. Administrative cap over the technological use of AI in image processing.
2. Including all walks of people in research related to CV to reduce racism, sexism etc. getting transferred to technologies.
3. Dataset for image processing should be available only to authorised companies/personnels with proper rules and regulations and not everyone.
4. Proper consent of individual before accessing/processing their images and their data in general.

### 5 Conclusion

CV and AI are very latest and "young" technologies having a lot of potential and scope for betterment of society and technologies. Many NP type problems could find their solution through AI.

Similar to the fact that chemical researchers don't blindly make chemical weapons and misuse them. This is because they understand their responsibilities. In the same way, computer scientists should realise their moral responsibilities. Also, ethical problems should not slow down the research development in the field of CV and AI in general.

## 6 References

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