

## Title: The Prevalence of Bias in Computer Vision

The article gives a comprehensive understanding of computer vision, a subfield of Artificial Intelligence (AI) that enables machines to visually understand and interact with their surroundings. Computer vision techniques are used extensively across various industries, but despite their advantages, they face significant challenges. Among these is the issue of bias, which arises from the skewed datasets used to train these AI models.

The article cites ImageNet, a widely used dataset in computer vision, as an example of this problem. ImageNet's vast selection of labeled images has undoubtedly propelled the development of computer vision. However, the dataset has been criticized for encompassing several biases, from the explicit - including racist and sexist labels - to the more subtle - the peculiar choice of categories and hierarchy. This bias problem has significant real-world implications, with facial recognition technology notoriously misidentifying Black people as one such manifestation.

Two more examples of biases in computer vision highlight the extent of this issue:

**Gender Bias in Commercial AI Systems:** A study by Joy Buolamwini and Timnit Gebru (2018) demonstrated significant gender and skin-type bias in commercial facial analysis systems offered by IBM, Microsoft, and Face++. The systems consistently performed better on male faces and lighter skin tones. This bias problem was attributed to the unrepresentative nature of the training data used to develop these systems. A proposed solution includes improving the diversity and representativeness of training data and implementing rigorous bias audits before deploying these systems.

**Racial Bias in Healthcare Algorithms:** Obermeyer et al. (2019) found racial bias in a healthcare algorithm used to predict which patients would benefit from care management programs. The algorithm falsely assigned healthier Black patients the same risk score as sicker White patients, leading to a significant reduction in the number of Black patients identified for extra care. The solution proposed involved the algorithm using more direct measures of health, such as physiological variables and active health conditions, instead of proxies like healthcare costs.

In conclusion, while computer vision has immense potential, the issue of bias threatens its credibility and utility. Ensuring diversity in training data and employing stricter bias audit protocols seem to be viable initial steps towards mitigating this bias problem.