

Developments in artificial intelligence systems have had a major resurgence in scientific breakthroughs that have been increasingly made available to the public. These systems can be used to understand our world better, but also have the potential to cause major ripple effects within the job market. Using machine learning in data analysis has been a new powerful tool to gain deeper insight into the world of education and testing scores. But in the same realm, data analysis can be used to synthesize art created by artificial intelligence, which is ethically nebulous at best. I have explored both uses of artificial intelligence systems in a data analysis in education lens and philosophical lens in my research and socio-technical analysis.

Schooling in the state of Virginia has been the subject of a long and tumultuous history, especially during the Massive Resistance Movement which tried to prevent desegregation in public schooling. Our capstone was to create a machine learning pipeline to analyze and predict Virginia Standards of Learning test scores for the 2021-2022 school year for the Machine Learning for Virginia contest. These were based on a variety of socioeconomic factors such as gender, race, and economic status of the students. We used a variety of machine learning models not only to see how well we could predict the scores, but to also understand which factors may play more or less of a role in determining test scores. Combined with a mapping of the data onto the geographical locations, we can gain better insight into where our history has led us to, and what we may do in the future to benefit those who are in need.

While artificial intelligence may be used to do data analysis when combined with machine learning like in my capstone research, it also threatens to push others out of the workforce which is what I explore in my ethical analysis of AI art. I analyzed the technology, mapping it onto utilitarianism and John Rawls' Fairness as Justice theory. I also analyze previous AI studies to get a lay of the land, and to get a better understanding of previous philosophical arguments in the realm of artificial intelligence. I found that AI art fails to generate overall utility which would make it fail to be justifiable under utilitarianism. It also is an inequitable technology as it fails to provide equal opportunity for all, but rather takes away opportunities for the artists it displaces. Under these two ethical models, AI art not only fails to be justifiable, but is actively wrong to pursue.

Both of these applications of AI demonstrate the need to be mindful of the humans using the technology. While AI promises to bring much value to the world, it has the potential to do as much destruction. We must always try to consider the implications of our usage when we adopt new technologies, ensuring that we do not widen the gap between the wealthy and the disadvantaged, but instead strive to create more equitable opportunities for all.