INTRODUCTION

Algorithms and justice are already extremely nuanced ideas irrespective of each other, but their overlap within algorithmic justice unlocks a plethora of new considerations. However, even with these complexities, their consensus lies in their will for the betterment of society through righteousness and fairness; algorithms seek solutions and efficiency to ease lives, and justice evaluates and attempts to ensure the moral rights for all. When evaluating whether algorithmic justice is attainable, then, the real question being posed is whether righteousness and fairness are even possible, and particularly, at what scale?

I am arguing that algorithmic justice is **not** an attainable aim in practice, but that does not mean it is not worth pursuing. The scale that algorithmic justice attempts to apply righteousness and fairness to will always cost one party, making it unrealistic to expect it to bring about justice to all. In this paper, I will examine a case study exploring the use of rideshare algorithms, focusing primarily on Uber. What is particularly interesting about rideshare algorithms is the multifaceted nature of its parties; whereas many other algorithms that function as part of larger corporations see a two party interaction between the corporation/algorithm and the user (i.e. facial recognition is between the corporation/algorithmic and the user), rideshare algorithms complexify the user component. Instead of two parties, there are three: the corporation/algorithm, the driver, and the rider. By pointing out injustices towards each of the parties, it may be extrapolated that algorithmic justice as a whole cannot be attained because it can not reach its goal of righteousness and fairness for all, even when brought up in varying degrees, such as in egalitarian or prioritarian perspectives.

INJUSTICE TOWARDS DRIVERS

I chose to focus on this portion first because it is often the most overlooked component of rideshare services.

Opportunity

The most relevant question to ask is how drivers are matched to riders. According to Uber, they utilize batched matching, which means it is not just about which rider requested first and which driver is closest, but rather calculating all of the surrounding riders and drivers and optimizing their combined wait time and rating. While this may sound fair on a total scale, for workers, to have your job opportunities calculated for you can be quite restricting. Placing what determines how much money you make into a calculation can feel as though there is some autonomy being stripped from or stagnating you as not just a driver, but a worker within the economy. If this is the case, we can question whether algorithms are an opportunity for drivers

and gig workers (temporary freelancers) to make money, or if drivers and gig workers are merely an opportunity for algorithms and corporations to satisfy riders and make money?

Moreover, the integration of a rating system into that calculation can make opportunities imbalanced, raising questions of both justice in distribution of opportunity and recognition of human value. Uber's rating system allows both drivers and riders to rank each other, and suggests metrics such as 'Clean & Tidy' or 'Nice Tunes' or even ones that measure if your driver talks too much. Having higher ratings can lead to more ride opportunities, as well as higher-paying opportunities. While this is understandable as a rewards measure for being a good worker, it amplifies biased influences on why these ratings are given. Was the driver a preferred race? Did they have a Tesla instead of a Honda? The bases of others' satisfaction by multiple external factors then determines the opportunities of the judged. Additionally, how can opportunity be properly distributed? Say a 4-star driver is 1.5 miles away, but a 5-star driver is 1 mile away - who would get to seize the opportunity? Most people would argue that since the 5-star driver is closer, she should get the opportunity, but a prioritarian might argue that the 4-star driver, albeit farther, deserves the redemption opportunity. I will discuss more on the multiple perspectives on this particular scenario, particularly with the addition of rider patience consideration later, but between the drivers, it's improbable to distribute ride opportunities in a way that could benefit everyone.

Worker's Rights

Another point of concern is that, realistically speaking, algorithms require human workers to sustain them. Uber's drivers are mostly gig workers, and this freedom often means that they are easily exploited, even so far as legally so. Proposition 22 was a ballot initiative led by app-based corporations that essentially stripped their drivers and deliverers of their employee rights, significantly depleting wages, welfare, compensation, etc. Part of algorithmic justice is about accounting for the displacement of people's basic necessities as a result of algorithmic implementation, and how unfair that may be. When we see that the algorithm Uber, the very corporation who proposed this ballot initiative, is also in charge of calculating driver rates, with no transparency for drivers into how that may be done, we question the fairness of placing people's livelihoods into the hands of algorithms, particularly algorithms that are being programmed to maximize profits.

Uber also has the capability to monitor the vehicle and see if drivers are working for competitors. This would not only be an invasion of privacy, but the perpetuation of a possible monopoly. Monopolization allows companies to do what they want with little regard for competitors, consequently enabling them to push boundaries and exploit workers who have nowhere else to go. This sort of algorithmic manipulation infringes on drivers' rights to diversify their employment opportunities.

INJUSTICE TOWARDS RIDERS

Stakes of Patience

If we go back to opportunity distribution for drivers, we raise the question of who to prioritize between drivers and riders. Though offering the ride opportunity to the lower-ranked and farther driver may seem redemptive in theory, where does that place the rider in priority? Why should the driver's need override the rider's wait time?

Reversing from rider patience to driver patience, the algorithm incentives drivers to get rides done quickly to move onto the next, but how might that affect the quality and safety of a ride? But could this also be a benefit, where both drivers and riders reach their destinations at a faster rate?

Discrimination versus Safety

One of the features Uber allows for its drivers is to turn down riders. At night, female drivers have the opportunity to only accept rides from other females for the sake of their own safety. But what if there has been a scenario where a non-white male is in desperate need to get home at night? Not only do drivers have the opportunity to turn him down for his race, but the algorithm could very well not suggest him at all, especially if he's received previous bias and racial discrimination that lowered his score as a rider. While driver safety is just as important, how do we decide whose needs are more important?

FURTHER CORPORATION CONSIDERATIONS

Algorithmic Data Protection

Corporations are often painted to be the bad guys of the ethical dilemma, but it's valuable to consider the ethical predicaments they face that may evade our corrupt perceptions of them. With ethics in algorithms arises also the question of protecting the data garnered from the algorithm. In the same way that Apple refused to unlock a shooter's iPhone for the FBI in 2020, what stakes and moral responsibilities does Uber have to lose, as the ones programming these algorithms, if the privacy of that information is threatened?

Take a scenario where a serial killer Ubers to all of its victims' homes to kill them, and the FBI needs to be tracking Uber for that serial killer's previous locations and next planned moves. As absurd as the scenario may sound, and as much as the average moral gut may point out a perceived obvious answer to just give the FBI access to that information "for the greater good", Uber faces a dilemma in that the serial killer is most relevant to Uber as its user. Should Uber protect its users and their location data in that case? If the serial killer passenger told the

driver, does the driver get hooked into accountability? If the privacy of sensitive information has the opportunity to be exploited in a way other than its initial intention, should the algorithm even exist? In other words, does the good outweigh the bad, and how can we measure that? And does the algorithm serve its creating corporation, the government, its users, or the rest of society, even if it is independent of that algorithm - is the collective or the individual more important?

Will Manipulation

Bouncing off of that scenario to a less severe one, where does Uber fall in the hierarchy of accountability? To be able to book an Uber, you have to be 18. Say an 18-year-old decides to take an Uber to an extremely dodgy location that is restricted for people who are 21 or older. Uber, like in the serial killer scenario, serves as a vehicle, literally, for people to get to different places, regardless of intent. Should Uber algorithms be able to calculate the safety of locations, consequently and possibly inhibiting people's free will for where they want to go and what they want to do? But when that calculation of safety is made, what might factor into it? Would it lower the quality of a particular area because higher rates of crimes occur there, or because a certain demographic lives there?

Although it may sound like to consider Uber doing that is being nitpicky and overly detailed, it's important to consider how this impacts the reach of Uber. Without location characterization, there is no way of calculating which cities may be in greater need of Ubers at night and which cities may not be. But if Uber were algorithmically just, it means that it should have a fair reach. How can Uber make its reach fair if there aren't drivers in every location, and if drivers have a tendency to refuse to drop-off or pick-up at particular locations from biases? Not only may the algorithm totally begin negating those locations, but because of their lack of popularity, lowers the money made from those rides, further deterring those locations from being accessible?

CONCLUSION

Even from just the consideration of three parties is an algorithm already complicated in scale and range. In more complex organizations where algorithms affect even more parties, the scale and range, and consequently, the ambiguity and indecisiveness surrounding algorithmic injustice becomes further compounded. In each of the presented scenarios, at least one party is compromising their safety, their livelihood, their reputation, their priorities, etc.

But although algorithmic justice is unattainable, it does not equate to it being a lost cause. Algorithmic justice is unattainable for the reason that its scale is unable to be regulated from a lack of parameters. Though it's impossible to predict every scenario and to attain the global fairness that justice requires, consistent caution and monitoring helps to combat the human errors that cause surprising algorithmic dilemmas.