Thesis Project Portfolio

Data Analytics Web Application for Job Runs with Batch-Scheduling Software Control-M

(Technical Report)

Ethics Analysis of Tesla's Autopilot Feature and Related Actions

(STS Research Paper)

An Undergraduate Thesis

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Sociotechnical Synthesis

My technical report and STS research paper are related in that they both emphasize two important analytical methodologies when developing technology, which involve carefully analyzing data and understanding ethical implications behind decisions made. Data analytics, which I have touched upon in my technical report, focuses on answering the question regarding how certain problems can be addressed with thorough data analysis and provides a better understanding of what can be resolved or prevented to ensure stability in the workplace and for the company. As for ethical analysis, which has been elaborated extensively in my STS research paper, it is imperative and necessary when making decisions that could have a great impact on multiple clients and people involved, especially if the consequences could lead to exacerbation of an ongoing problem or even fatality.

The technical report focuses on a project that I completed during my internship at VISA where I developed a web application that analyzed run data of processes that were being monitored using a batch-scheduling software by the Global Enterprise Batch Support team. By doing this project, I was able to give my co-workers and upper management more visibility in which process failures needed more attention to be addressed by the Automation team. This project that I was assigned to do is an example of why data analytics is vital in tackling recurring and arising problems, which in turn prevent even greater problems from occurring.

As for the STS research paper, I focused on analyzing the ethics behind the decisions made by Tesla when deploying their vehicles with the Autopilot system, which had been correlated to numerous accidents and casualties that have occurred on the road. The case focuses on narrowing down to specific accidents that have been taken to the court and publicized, and one of the accidents involved the fatality of Jeremy Banner. This case would then be analyzed using the duty ethics framework that would then be used to split the decisions made into categorical imperatives, followed by universality and reciprocity principle validations. After doing thorough research on this topic, I felt the importance of better

understanding the ethics and morals of decision making before acting, which can be helpful in the technical workplace.

In terms of chronology, I had written the technical report first after my internship experience with VISA, and such an experience opened my eyes to the technical workplace that is considered the backbone of the company. Months later, I would eventually learn about various ethical frameworks people use to analyze big-time decisions, such as those of Tesla when they mass-deployed their vehicles with the Autopilot feature. Even if these two topics may seem vastly different in terms of context and technology, I feel that both the technical report and STS research paper emphasize the importance of making use of both data and ethical analyses when making decisions to solve problems and providing clients with satisfactory services. With these two applicable methodologies in mind, I plan on making use of them in the future when developing applications/technology that would be helpful in both addressing problems and preventing potential disaster in the technical world.