

HUDK 4050 Core Methods in Educational Data Mining Reflective Essay

This course was not a class that I had to take for my masters degree (Ed.M. Ed Psyc). However, I took this course because I felt like it was important for me to be able to critically extract and evaluate mass amounts of data and use it to improve teaching and learning processes. Prior to taking this course, I had no experience with programming. I had only taken a short 2-unit course on Java during my undergraduate. I was nervous because Python was something completely new to me, and I wasn't sure if I would be able to complete the analysis challenge assignments. I expected the course to teach us how to make sense of large amounts of data and to use that to evaluate implications for educational research, policy, and practice. By the end of the course, my goal was to familiarize myself with the various data mining techniques and be able to apply them in a real-world setting.

Through this course, I have learned many data mining techniques such as how to create a logistic regression, clustering analysis, Naive Bayes, confusion matrix, etc. My biggest take-away from this course is that if data is evaluated with the right techniques, it can lead to powerful insights and implications. For example, it can help us create models to examine the way students learn, what settings they thrive in, and what policies would impact their learning for the better. My favorite part of the course was the analysis challenge assignments as they were situated in a real-world educational context. It gave me a better idea of how to apply the techniques that we had learned in class in a practical situation. However, this was also the most challenging part of the course as I worked on all my ACAs alone. Whenever I didn't know how to do something or whenever I ran into errors that I didn't know how to fix, I would spend hours on Google looking through others' code. In a way, this also taught me a lot of things outside of what we learned in class.

I definitely feel like I did achieve my learning goal of being exposed to various data mining techniques and applying them in an educational setting. This class has opened my eyes to the endless possibilities of data mining and how it can help advance education. Whether we will become teachers, counselors, advisors, admissions officers or instructional designers, data mining can help us make sense of big data. Since I am working towards being an instructional designer, this course has shown me the ways I can apply it in my work. For example, it's important to be able to evaluate the effectiveness of your instructional design, what variables affect their learning, etc. In the future, I hope to continue exploring how educational data mining can help me in my career. I know that as the world shifts to an increasingly digital one, its important for all of us to be able to at least evaluate the implications of data science.