Please upload a statement of purpose essay that addresses why you are interested in graduate studies in AI and ML at JHU, and how this relates to your subsequent career goals.

I first discovered my love for numbers was when I was younger, doing multiplication tables in my head while playing soccer. My passion for deep analytical thinking developed through spending every second of free time wondering about math or with my head in a book. My parents would often tell me they would love to know what was going on in my mind; as I always seemed to be lost in thought. My interest in AI and ML began while taking an introductory econometrics course that challenged me to experiment with new ways of strategic thinking and search for patterns with mathematical thinking. I continued on this trajectory, where I took a time series analysis course that unlocked the added challenge of thinking through time. I then enrolled in a game theory course, where I applied my learning to the corporate environment. My world is grounded in mathematics and reasoning, something that's drawn into my everyday decision-making process and has proven useful in multiple independent data-driven projects.

Now, I have a desire to unlock other methods of artificial intelligence thinking through an education at John Hopkins University. This program is a perfect fit particularly due to the lifelong learning opportunities, the organization and support offered throughout the program, the range of foundational courses with applications in my interest areas, and the potential connections I will make with a diverse group of thinkers. This preparation will allow me to spend a lifetime of collaboration with other passionate and intellectually driven individuals, hopefully leading to the founding and completion of many service based initiatives. My worldview also envisages the importance of altruism.

The courses offered will help me develop into an AI leader prepared to take on service based projects later down the road. In my time as a Master's student, I hope to publish a few different papers, and prepare myself for a Ph.D. program. I am primarily interested in data ethics and cognitive models, which I will further be interested in narrowing my focus and impact with help from colleagues and professors. I am excited to work with Beryl Castello in regards to optimization, Monica Lopez-Gonzalez for Cognitive and Behavioral Foundations for Artificial Intelligence, Mark Fleischer for neural networks, as well as Zerotti Woods for ML theory. Of course, there are many other colleagues I will interact with, but these professors offer a diverse set of skills that I can continue to apply to service based projects, as well as narrow my interests - as I am just starting my career. I really hope to earn a connection to do research with these different professors, to discover which area of research I am most passionate about.

Discuss a time that you made a decision based on data. How did the data influence a good or bad decision making process? Make sure to choose an example and to describe it in such a way that clearly illustrates your analytical and problem-solving abilities. Limit your response to 300 words.

The insights I gleaned during an econometrics project helped shape my perspective on manhood and taught me how to meaningfully support women. In this course, I formed a hypothesis that the habit of home cooked meals could lower women's earnings, and tested this with a data driven project in SAS. I sought the guidance of another professor, and worked alongside her to grow her data set in order to accurately test my hypothesis using econometric methodology. Investing more than 100 hours in this project led me to discover a valuable variable that was not used in modern literature on the subject. Multiple variables were incorporated in this equation in order to remove omitted variable bias, many of which were first constructed by my intuition. I performed a literature review where I justified the usage of each variable with multiple research studies. These variables included family needs, use of food stamps, if they had a young child, age of the youngest child, if the woman does a majority of the housework, age of the woman, years of education, marital status, if the individual has a high level of religiosity, and number of children. The main interaction variable (if a woman* meals eaten together as a family) became prevalent in COVID-19. The creation of this variable led to a class discussion where I informed my classmates of the discrepancy between men and women's earnings in relation to child rearing. I have applied these findings to my life by developing new habits, including becoming an above average cook, doing my fair share of dishes, and cleaning in general. I plan on doing about 70% of housework if my wife is pregnant, and will use metrics to optimize her well-being as well as my own.

Please feel free to check out my report here:
https://github.com/users/EthanNorton/projects/1

If you acquired your knowledge of data structures, algorithms, linear algebra, and/or object oriented programming in a way OTHER THAN through undergraduate or graduate coursework (e.g. self-taught, on-the-job), please explain your level of proficiency and how you acquired it in this statement.

My excitement to delve into the world of data science drove me to seek out independent learning resources about data structures, algorithms, and object oriented programming. I wanted to be prepared to learn more advanced skills when finally given the opportunity and have spent the past few months building a solid foundation through certificate programs (linked), challenging projects, and videos. So far, I have finished an introductory level python course, and

I have dedicated time to develop my data structures/OOP skills each week. I also enrolled in courses via MOOCs in order to bridge the gap between my data analysis experience and deficits in my coding skills. I would prefer to not have to enroll in the beginner level coding course, but I will if necessary. I am hungry to learn more, and if I am admitted into the program I will enroll in the 75% discounted courses that will be offered to catch up.