# **1.3-CMU-Sum**

1. Most students choose their intended major or area of study based on a passion or inspiration that’s developed over time – what passion or inspiration led you to choose this area of study? (300 word maximum)\*

Since childhood, numbers have always possessed a fascinating appeal to me—I can quickly memorize phone numbers and enjoy breaking them into primes. As my math skills mature, its logic and precision captivates me. Transforming messy polynomials into simpler ones or expressing infinite series as fractions never ceases to amaze me.

In high school, I have actively engaged in some introductory courses of data science for its burgeoning influence and collaborated with classmates on a case study about the identification and categorisation of coins using computer visualisation techniques. Our paper “Brazilian Coin Counter Research Report” discussed a coin identification and validation model based on the AlexNet convolutional model, which deepened my comprehensive understanding of data science, from collecting and classifying data to building CNN models and conducting data analysis with Python programming.

The exploration of linear algebra, crucial for contemporary machine learning, ushered me further in the area when I initially encountered matrices during preparation. However, it was my practical involvement in a data project that truly revealed the remarkable power and significance of matrices in real-world applications. This experience served as a catalyst, propelling me towards a systematic study of linear algebra, a journey aimed at mastering advanced machine learning algorithms like CNNs, which heavily rely on matrix operations.

Moreover, guided by my father—a seasoned fixed income trader—I've had the opportunity to merge theoretical mathematical knowledge with financial data analysis, like employing filtering techniques to enhance price prediction accuracy for government bonds. I've come to appreciate the indispensable role of mathematics within the intricate landscape of financial trading, further reinforcing my pursuit of mathematical proficiency in optimizing modern trading methodologies through the learning process.

In the future, I aspire to explain everything in the universe with mathematics.

2.Many students pursue college for a specific degree, career opportunity or personal goal. Whichever it may be, learning will be critical to achieve your ultimate goal. As you think ahead to the process of learning during your college years, how will you define a successful college experience? (300 word maximum)\*

From my perspective, I value the opportunity of interdisciplinary as the most important value of a university experience. Mathematics serves as a foundational pillar upon which I've built an appreciation for various fields, including business analytics in economic. I find my motivation of studying a subject by combining it with different field of study.

For me, I find immense motivation in exploring subjects by intertwining them with diverse areas of study. This approach not only enhances my understanding of each discipline individually but also unveils the powerful synergies that arise when merging different realms of knowledge.

Just as Pythagoras said, there is geometry in the humming of the strings. I realized this 什么 when I participated in the Space City Competition, organized by NASA. In the Asian Regional Finals, my team used the Lagrange method to calculate the position of the perigee. To fully understand the method, I employed advanced knowledge of mathematical modeling, potential functions and integration methods. I also built various mathematical models to predict the economic trend of the city, providing a more promising development presentation.

Pythagoras also said that there is music in the spacing of the spheres. I aim my research direction for MSBA studying toward Mathmatics and Finance, while the MSBA program at the Tepper School of Business especially appeals to me.

CMU's interdisciplinary studying opportunity that gets me qualified to appreciate the beauty of Mathematics, to immerse myself into the realm described by Pythagoras. If I am able to acquire such an ability, I see my college journey as successful.

Consider your application as a whole. What do you personally want to emphasize about your application for the admission committee’s consideration? Highlight something that’s important to you or something you haven’t had a chance to share. Tell us, don’t show us (no websites please). (300 word maximum)\*

Since my early childhood. Different kinds of plane models have dominated my stody desk. Whether it's the iconic blue and white stripes of KLM, the bold red and white swoop of Virgin Atlantic, or the vibrant patterns of ANA's Star Wars-themed jets, each livery tells a story. It has long transcended from a simple hobby to an inseparable part of my life.

Particularly, I am most adept at crafting model planes, and I perceive it as an art form that perfectly resonates with my inner passion for pursuing precision and creativity. Beyond the acts of piecing together different parts of the models, I delved deeper into the intricacies of drawing rough sketches, refining my design, meticulously adding details to each gear, and so much more. I could spend a whole day sitting in front of my desk, just to overcome some designing or building difficulties.

When designing a plane model, I delve into the specifics of dimensions, wings, engines, and landing gear, infusing each design with my creative touch. My proudest work is a meticulously crafted Lufthansa Boeing 747-400, built in a 1:400 scale. I designed it in a way that I have never tried before, which is giving every part of the model a mortise and a joint to let them interlock thenselves, rather than using tapes or glues to stick the parts altogether. Before making the landing gear, I researched the details of the shape, size, design, wheel diameter, the arrangement of the landing gears and many other aspects to represent the original plane structure to the greatest extent.

Designing liveries is about encapsulating the essence of these carriers in a visual narrative that spans the aircraft's exterior. It's more than just graphic design; it's a tribute to the legacy and character of these airlines, transforming a metal canvas into a flying emblem of their identity.

Moreover, I dedicated time to working on designing the liveries of each model plane. Each model-building experience exuberates vitality, granting me a precious opportunity to innovate, balance between aesthetic appeal and functionality, and bring sophisticated model planes to life.

Making model planes gradually became a daily commitment for me, especially during my junior high school years. Back then, I devoted approximately four hours per day to building models, and my proudest work is a meticulously crafted Lufthansa Boeing 747-400, built at a 1:400 scale. It stood out among my other creations for the innovative technique of making interlocking paper pieces without using any glue or tape I adopted in making this model. In the prolonged process of building the 747-700, I researched the details of the shape, size, engine design, and many other aspects to represent the original plane structure to the greatest extent.