I have long been determined to explore the mathematical world since childhood. Growing up, I have been sensitive to numbers and geometric figures. From solving simplifying equations to variables, I was constantly fascinated by the enormous achievement of solving mathematical problems. And I believe USC will be the best place to fulfill my academic goals.

Firstly, I have been aware of USC’s excellent academic reputation in mathematics, data science, and other math-related subjects. I also noticed that USC has recently launched a $1 billion-plus initiative for advanced computing, which is an emerging academic field that aligns perfectly with my academic interest. After carefully browsing the official website of USC, I was impressed by the flexible curriculum with a wide variety of courses for students to delve into specific disciplines of mathematics. In particular, I expect to take MATH 471: *Topics in Linear Algebra* and MATH 447: *Mathematics of Machine Learning* as my academic curiosity in studying concepts like linear transformations and matrix factorizations was aroused. My profound curiosity was sparked when I took some introductory data science courses this year, and I marveled at its infinite possibilities.

Aside from absorbing advanced knowledge at USC, I also look forward to utilizing the abundant research resources provided for undergraduate students. Among the esteemed scholars at USC, I am most impressed by Professor Xiaohui Chen for his research focus on high-dimensional statistics, machine learning, and optimal transport. I would love to learn from Professor Chen and realize my academic potential if admitted.