Since middle school, I have always been interested in mathematics and its applications in computer science. I initially entered Department of Computer Science and Technology, Tsinghua University with a silver medal in CMO’14 and a first prize in NOIP’13, and from middle school I am especially interested in geometry and combinatorics, which has built up a preliminary background for my current interests.

I entered IIIS in Spring 2016. The early times in Department of CST helped me strengthen my fundamental understanding in computer science; after entering IIIS, as I decided to take more courses than required to make more variety in my knowledge background, I found myself doing better in courses in connection with mathematics than those about algorithms or coding, and then gradually developed my research interest in the general direction: whatever combines mathematics and computer science, especially in computational geometry, computer graphics/vision/robotics and learning theory.

In Spring 2018, on the visiting program to UT Austin, I did research in the field of data-driven topological reconstruction under the supervision of Qixing Huang and Chandrajit Bajaj. During the visiting program, my supervisors let me learn by exploring instead of lead my way, so I gained much understanding about dictionary learning, information theory, non-convex optimization and etc. Although I came across much difficulty and did not achieve substantial results, it did make an unusual experience and provided me with understandings of scientific research as my first experience as a researcher.

After coming back, I did research on dynamic SLAM in the Graphics Lab of Tsinghua, under the supervision of Shi-Min Hu. In that project, I observed a fact that landmarks on a rigid body has constant pairwise distances, and contributed in the concept of motion similarity matrix and rigidity constraints for clustering, which improved both the accuracy and efficiency of the state-of-the-art semantic clustering algorithm. The paper, *ClusterSLAM: A SLAM Backend for Simultaneous Rigid Body Clustering and Motion Estimation*, has been accepted for ICCV 2019. Inspired of the fancy effects and potential of rigidity properties, I finished my Bachelor Thesis *Noise-Stable Rigid Graphs for Euclidean Embedding*, which got an A grade.

From Fall 2019, I am seeking for opportunities to find real-world applications of the computational geometry and optimization in a wide range of areas, and now I am on an internship in the MSC lab of UC Berkeley, doing research on point-cloud-based mapping and localization, which can contribute to the Autonomous Driving system. (\*\*\*\*\*)

As I have made a good foundation for academic research during the first two years in college, I am currently making my way and getting fulfilling progress for academic research. In the future way as a PhD student, I will keep growing and put my passion and advantage for mathematical and interdisciplinary thinking into my academic career.