Epidemics modeling serves as a crucial tool in the field of epidemiology, offering valuable insights into the dynamics of disease outbreaks. By utilizing mathematical and computational frameworks, these models help us understand how diseases spread within populations, predict potential future scenarios, and evaluate the effectiveness of various intervention strategies. This understanding is essential for public health officials and policymakers as they formulate strategies to mitigate the impact of infectious diseases. Moreover, epidemics modeling provides a structured approach to assessing the potential outcomes of different public health measures, such as quarantine, vaccination, and social distancing. Through these simulations, we gain the ability to make informed decisions that can significantly reduce the negative consequences of epidemics on society.