

# A powerful AI tool for CHD screening

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**Abstract:** Coronary heart disease (CHD) is a global epidemic that leads to 17.92 million (~1/3) of deaths worldwide in 2016. It is reported by the American College of Cardiology that ischemic heart disease, a late stage of CHD, kills 8.92 million people in 2015 and is ranked No. 1 killer among all diseases. The growing mortality rate of CHD not only causes a significant loss on human resources but also causes many social problems. There is an urgent need for preventive methods to reduce the social burden caused by CHD. However, there is no effective CHD screening methods to date due to the high operational cost, the requirement of expensive and high-maintenance equipment, the need of well trained medical staffs and, most importantly, the potential surgical risk and the radiology side effect on subjects. With the fast development of AI technology, many traditional medical practices are substantially simplified with AI assistance. Unfortunately, most existing AI methods, such as CNN, require extensive computation resources and huge training data as input, which limit the clinical applications of many AI algorithm. In this talk, I will introduce a computational efficient statistical leverage method. I will also illustrate a clinical level AI derivative for CHD screening.