

Abstract: The availability and reduced cost of a variety of sensing technologies have recently been motivating and enabling their use in a wide range of applications, leading to the emergence of ubiquitous and complex sensor data. This includes sensing through cell phone cameras, physiological sensors, miniature radars, mobile microscopes, visual sensor networks, to name a few. This poses the challenge of developing principled, automated, and efficient algorithms for information extraction at various levels of abstraction from such data. Many of these sensing tasks share some common challenges: data are generally uncertain and incomplete; sensing resources are limited and should be shared