The Internet-of-Things (IoT) era promises hundreds of billions of devices or physical objects connected to the Internet. These objects include sensors, actuators, and processing elements that help us gather data, make intelligent decisions, and optimize processes. IoT is expected to have a potential economic impact of $3-6 trillion per year by 2025, with $1-2.5 trillion of this economic impact (its largest fraction) coming from smart healthcare applications. These healthcare applications will be enabled by various technologies, e.g., (i) neural network based detection and differential diagnosis using wearable medical sensors present in smartwatches and smartphones that will communicate with a health server to enable a physician to keep track of an individual’s health and (ii) personalized medical decision-making. However, many challenges remain in making this vision a reality. In this talk, we will explore how machine learning models employed at different layers of the healthcare hierarchy can begin to realize the above vision.