Biometrics: Soon in the limelight, but ready for the dance?
The top 10 issues which you can solve

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Abstract

Identity and authentication is one of the most common transactions each of us do numerous times each day. In an increasingly digital and interconnected world, our passwords are the root of security of who we are. However passwords are easily compromised, given to others, and inconvenient to remember and use. Alternatives have long been desired, but the heavy inertia and ubiquity of passwords has been too great a barrier to change. Soon, the major technology platforms (Apple, Microsoft, Google) will make a serious bet on the use of biometrics, and specifically fingerprint authentication, as the future of authentication. Many mainstream consumer phones and tablets will contain a fingerprint reader and key consumer services such as payments will natively incorporate use. This will be a high bar of usability and reliability, and such a global rollout will be one of the most major and mission critical applications of computer vision to date. Biometrics, and specifically fingerprint authentication, has generally been considered to be a mostly solved problem in academic circles. Indeed, biometrics has proven successful in controlled environments and use, but unlike past use of biometrics in government applications, successful consumer use of fingerprints requires the system to work the first time and all the time, in every environment, for everyone, and without training. Furthermore, in commercial systems there are fundamental size, cost and power consumption constraints which demand compromises. In this talk I will outline the many unsolved problems and challenges in reliability, security, privacy and accuracy which can best be resolved through innovation at the core computer vision algorithms.

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