

Innovative Application of Photo Electronics in the Field of Information Security

Davar Pishva

Faculty of Asia Pacific Studies, Ritsumeikan Asia Pacific University, Beppu, Japan, (dpishva@apu.ac.jp)

Abstract

Applications of photo electronics have tremendously expanded since 1960s and new applications still continue to emerge since the technology enables us to capture and transmit valuable information at the speed of light in a non-destructive manner and subsequently allows us to process them at electronics speed. Considering that digital information and internet has penetrated to all aspects of our life, its underlying security has become a great concern and numerous innovative approaches are being investigated for strengthening of the security. Photo electronics based technologies are also being used in the field of information security informs of say biometrics authentication, however, existing approaches have proven to become vulnerable to malicious attacks and there are numerous attack cases. This research shows how to innovatively combine existing biometrics approaches with a complementary scheme in a practical and multi-factor manner in order to reduce the likelihood of an imposter getting authenticated without creating much overhead or inconveniencing their users.
