PhD Oral Defense

Date: **09 August 2021 (Monday)** **Time:** **2:30pm**

Thesis Title

Data-driven Discriminative Feature Learning For Biometric Vein Recognition and Face Recognition

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Abstract

Biometric recognition technology exploits the unique and stable biological traits involved with the human body to recognize a person, which can greatly simplify our daily lives and improve the efficiency of society. In practical applications, the biometric images may arise with large intra-class variations and high inter-class similarity, which could severely degrade the performance of a biometric system. This thesis is dedicated to investigating effective feature learning techniques to improve the performance for biometric vein recognition and face recognition. The original contributions of this thesis involves the design of new data augmentation techniques, new feature learning scheme as well as new loss functions to tackle the specific challenges faced by biometric vein recognition and face recognition. Extensive experiments on prestigious public vein image databases and face datasets confirmed the efficacy of the proposed methods and the superior performance. In addition, a practical finger vein-based biometric system using the proposed techniques is also developed, showing high reliability and efficiency.