COMP Research Student Seminar

Apply machine learning in behavior detecting, composition, and privacy

Date: 14 December 2018 (Friday)  Time: 11:00 a.m. – 12:00 noon  Venue: PQ703

Mr. Gong Chen, PhD Student
Department of Computing
The Hong Kong Polytechnic University

Topic: Musicality-Novelty Generative Adversarial Nets for Algorithmic Composition

Abstract: Algorithmic composition, which enables computers to generate music like human composers, has lasting charm because it intends to approximate artistic creation, most mysterious part of human intelligence. To deliver both melodious and refreshing music, this paper proposes the Musicality-Novelty Generative Adversarial Nets for algorithmic composition. We provide empirical validations by generating the music samples under various scenarios.

About the Speaker: Gong Chen is a 3rd year PhD student supervised by Dr Yan Liu. His research interests include artificial intelligence, brain imaging, computer music, affective computing, and meditation.

Mr. Yujun Fu, PhD Student
Department of Computing
The Hong Kong Polytechnic University

Topic: Cross-Species Learning: A Low-Cost Approach to Learning Human Fight from Animal Fight

Abstract: Detecting human fight behavior from videos is important in social signal processing, especially in the context of surveillance. However, the uncommon occurrence of real human fight events generally restricts the data collection for fight detection in machine learning, and thus hampers the performance of contemporary data driven approaches. To address this challenge, we present a novel cross-species learning method with a set of motion features for fight detection.

About the Speaker: Yujun Fu is a 4th year PhD student supervised by Dr Hong-va Leong. His research interests include human-computer interaction, social signal processing, affective computing and human intention/behavior understanding.

Mr. Jiaxing Shen, PhD Student
Department of Computing
The Hong Kong Polytechnic University

Topic: GINA: Group Gender Identification Using Privacy-Sensitive Audio Data

Abstract: Group gender is essential in understanding social interaction and group dynamics. We make the first attempt to identify group gender using privacy-sensitive audio using conversational features. The effectiveness and robustness of the system is improved via ensemble feature selection and a two-stage classification. According to the experimental evaluation of 100 people in 273 meetings, the proposed method outperforms baseline approaches and achieves an F1-score of 0.77 using linear SVM.

About the Speaker: Jiaxing Shen is a 5th year PhD student under the supervision of Prof. Jianhong Cao. His research areas mainly include data-driven analytics of human dynamics. Previously, he has utilised WiFi data for quantifying the impact of human on indoor WiFi quality and detecting shopping groups. Recently, he also exploits privacy-sensitive audio data for identifying participants’ gender information and personality traits.