香港浸會大學 HONG KONG BAPTIST UNIVERSITY

Department of Computer Science

Linear Dependency Modeling for Feature Fusion

- **Goal:** Given multiple features, learn the feature dependency to improve the recognition performance.
- **Contributions**
  - Solve the problem of independent assumption in classifier combination.
  - Prove linear combination can model feature dependency under some mild assumptions.
  - Develop a novel framework for dependency modeling.
  - Propose two methods, LCDM and LFDM, for classifier level and feature level fusion.
- **Advantages of the Proposed Methods**
  - **Without** independent assumption.
  - **Without** assumption on feature/classifier distributions.
- **Experiments**
  - Synthetic data and four real datasets are used for evaluation.
  - Results show that both LCDM and LFDM give convincing performances.
  - And LFDM gives the best results.

Andy J Ma and Pong C Yuen
Department of computer science, Hong Kong Baptist University, Hong Kong