

SUBJECT DESCRIPTION FORM

Subject title: Advanced and Research Topics in Pattern Recognition

Subject code: COMP6815

Credit value: 3

Responsible staff and department:

Jane You (COMP), David Zhang (COMP)

Pre-requisite: (Subject title and code no, if any)

Nil

Recommended background knowledge:

Knowledge in pattern recognition at the undergraduate level

Mutual exclusions:

Nil

Learning approach:

Staff will hold regular meetings with student. Student will survey research papers, discuss on research problems, conduct analysis, and give oral/written reports. The student has to submit at least one written report, which may be a survey, or a critical analysis of existing research results. Examination may be written or oral (in the presence of external members).

Assessment:

Continuous Assessment	45%
Examination	55%

Objectives:

- To equip student with appropriate research background and state-of-the-art knowledge in the area of research: pattern recognition.
- To train up student with ability to analyze and give critics to research papers.
- To allow student to learn skill to consolidate and produce technical research report.

Keyword syllabus:

State-of-the-art research topics and issues, including, but not restricted to, some of the following:

- feature extraction and representation
- object models and matching
- data clustering techniques
- classification methodology
- knowledge-based pattern recognition
- data mining
- applications on object recognition
- applications on multimedia information retrieval

Indicative reading list and references:

- Relevant IEEE Transactions: Transactions on Pattern Analysis and Machine Intelligence, Transactions on Image Processing, Transactions on Systems, Man and Cybernetics, Transactions on Multimedia
- Other relevant journals and magazines: Pattern Recognition, Pattern Recognition Letters, International Journal of Computer Vision, International Journal of Image Graphics
- Seminal papers in relevant conferences: ICPR, CVPR, ICIP, CISST