



- **Name of Organization(s)**
  - Rensselaer Polytechnic Institute
- **Lead Investigator**
  - Qiang Ji
- **Current Team Members**
  - None



# Research Interests

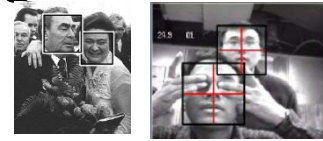
- Computer Vision
  - Many areas of automatic facial processing and analysis
  - Object detection and tracking
  - Human event and activity recognition
- Probabilistic graphical models (PGMs)
  - Learning and inference methods
  - PGM applications for computer vision, brain-computer interface, affective computing, information fusion, and situation awareness.



# Qualifications and Capabilities

- Capabilities in automatic facial processing

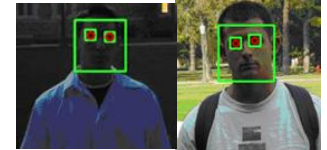
- Multi-view face detection and tracking
- Eye detection and tracking
- Facial feature point detection and tracking
- Face recognition, and FR performance prediction and optimization
- Facial expression analysis and recognition



Face detection & tracking



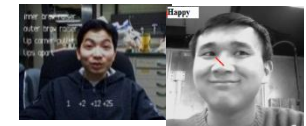
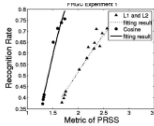
Facial feature detection & tracking



Eye detection & tracking



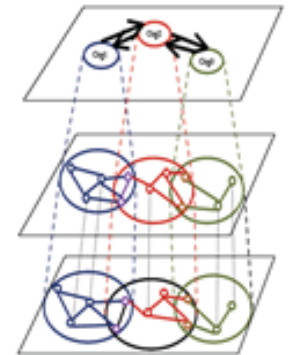
Facial recognition. & performance prediction



Facial expression recognition

- Capabilities in Probabilistic Graphical Models (PGMs)

- Develop advanced learning and inference methods for PGMs
- Apply PGMs to capture and represent prior knowledge, contextual information, and spatiotemporal relationships for different applications including computer vision, information fusion, BCI, HCI, situation awareness, and decision making



A hierarchical PGM



# Capabilities and Team Sought

- Specific capabilities your group is seeking
  - Significant experience in facial recognition
  - Significant experience in system and software integration and in system evaluation
- Type of research group you seek to join
  - Industrial research lab or a national lab
  - Well established academic team



# Contact Information

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