Identification of differential brain regions in MCI progression via clustering-evolutionary weighted SVM ensemble algorithm

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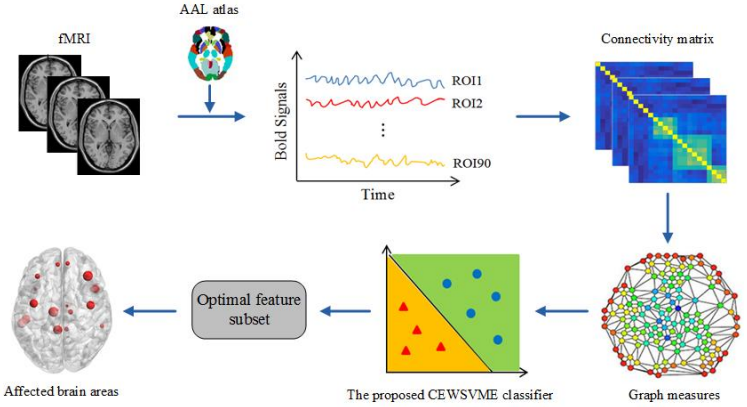
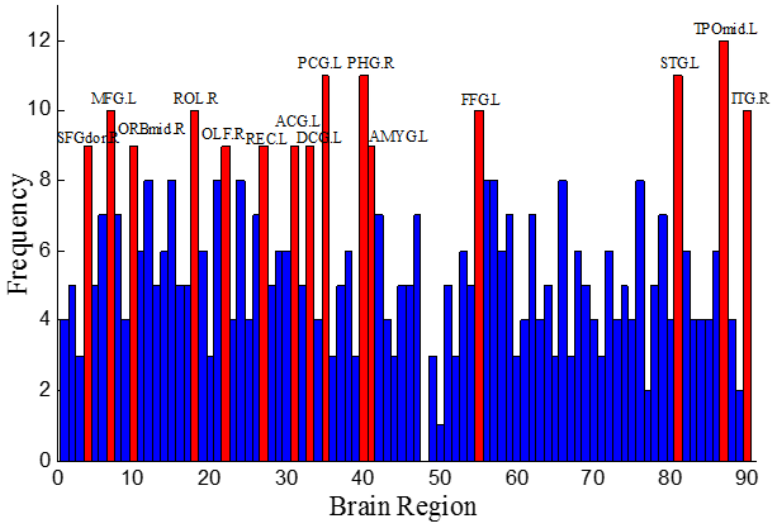
Problems & Ideas

- Problems of brain network changes in different stages of MCI（mild cognitive impairment）
  - Most studies may underestimate the changes of brain networks in different stages of MCI and make undifferentiated researches on EMCI and LMCI owing to the similarity of brain networks in different MCI stages, which may miss important information in the development of MC
- Ideas: Clustering-evolutionary weighted SVM ensemble (CEWSVME) algorithm
  - The CEWSVME algorithm is presented to detect the subtle differences in CN vs. EMCI and EMCI vs. LMCI respectively.

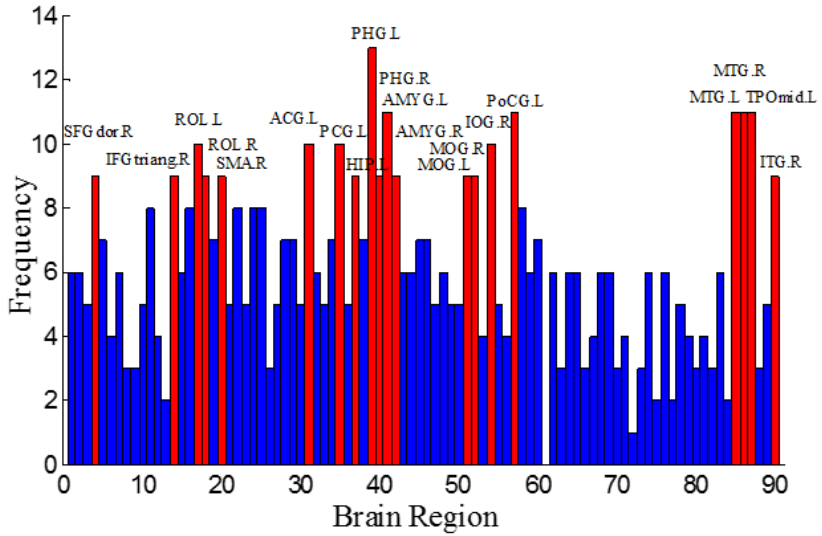


Main Contributions

- **The brain regions frequencies in CN vs. EMCI analysis.**



- **The brain regions frequencies in EMCI vs. LMCI analysis.**



- **The brain regions which have higher frequencies in two groups of experiments simultaneously.**