



IDENTIFYING BIOMARKERS RELATED TO AGE

Isabella Lopez, Fow-Sen Choa

Department of Computer Science and Electrical Engineering, University of Maryland, Baltimore
County, Baltimore, MD 21250

People are living longer; it is a simple truth. However, this brings up the issue of cognitive decline, something often associated with normal aging. Over the last four decades, the life expectancy in the United States has risen by almost ten years. This number will only grow with the life expectancy set to increase by almost six years from 2016 to 2060. With this projected increase, it is important to draw attention to how normal aging can affect cognitive decline as age-related cognitive decline not only impacts the domains of memory and attention but life satisfaction and quality of life. Neuroimaging techniques, such as functional magnetic resonance imaging (fMRI) and resting-state fMRI (rs-fMRI), may provide the clues we need to unravel the underpinning of normal aging and cognitive decline. As data obtained from rs-fMRI is both simplistic and reliable, this study utilizes data from both young and adults acquired through the aforementioned technique to identify potential biomarkers across nine subnetworks to distinctly separate young and old people. The function of these biomarkers can then be potentially used to identify differences in cognitive functions between those belonging in the old adult category and those in the young adult category.

Acknowledgments: This research was partially funded by the USM LSAMP program, supported by the NSF LSAMP Award #1619676.