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**Project Title**

Development of Epigenetic Age Prediction Algorithm

**Project Summary**

Aging is a universal process, but the process is unique. For example, some people display only benign signs of aging (e.g. greying of hair and wrinkles) until quite late in life while others become affected by debilitating issues such as frailty, loss of mobility and memory issues much earlier. These variations in aging have long been an area of interest for researchers. DNA methylation is a genomic modification which changes over time and may hold the key to understanding the differences within the aging process. Researchers have exploited changes in DNA methylation over time to develop a biomarker of aging known as the "epigenetic clock" which has been successful in studying the relationship between conditions such as cancer and aging. In this study, we take advantage of recent advances in methylation sequencing technology and machine learning methods to develop a new, more informative epigenetic clock which can provide further insight into the aging process.

**Keywords**

epigenetic clock, aging, algorithm development