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The extensive development of experimental basis in biological research and the progress in information support of studies in aging resulted in creation of large databases containing information on the state of health of vast groups of people who survived to an advanced age. There are some distinctive features of such kind of information which are to be considered when analyzed. First of all the data came from different people with different levels of frailty which causes natural selection in survival. This is the case of heterogeneity which should be taken into account and incorporated into mathematical models. Then the amount of personal information available now (physiological, genetical, states of health) is huge but the number of persons after stratification is relatively small which leads to insufficient statistical power of results. The next but not the last feature is that the biodemographical model used in investigations of ageing are mostly linear and describe multiplicative effects. The different types of models are to be incorporated in longevity investigation in combination with procedures of selection a model appropriate to the data available. The approaches, suitable to implementation in situation describer above, are known in the field of Machine Learning and applied for solving intricate tasks in economics, medical diagnostics, organization of the

Internet, and other fields of science and technology. Some of the most appropriate approaches in Machine Learning, which can be fruitful in Gerontology studies are:

1. solution inverse problems (estimation of rates from cumulative effect observations incorporating prior information),
2. variable selection (find small amount of factors, which describes the observed data in the more reliable way),
3. dependencies reconstruction (select a model from the dig class, which are relevant to the data),
4. data adaptation (combination genetic and nongenetic influence in surviving).