Searching for experts is a common demand, especially within organizations. A general task called expertise retrieval relates people to topics and, therefore, can be used for expert finding and/or profiling experts. Currently, most approaches used to solve this task are based on traditional document retrieval methods and do not consider prior profiling information available. In this thesis, it is proposed to map people to topics by training a multi-class classifier using available profile data. The inputs (documents associated to candidates by authorship or other relations) and target data (profile information) were prepared by unsupervised document classification methods and were used to train a neural network. The effects of feature ordering and a convolutional layer are also evaluated. The experiments show that profiling the experts is not only suitable for a recommender system, but also an effective way for expert finding, achieving a performance comparable to state of the art in benchmark tasks such as TREC Enterprise.