**PatientKind Expert: A Novel Method for Rare Disease Expert Classification**

**Introduction:**

Rare diseases have different definitions from countries. In Europe, a disease or disorder has less than 1 affection in 2,000 people called rare. In USA, a disease affects less than 200,000 Americans defined as rare [1]. Unlike influence of a single rare disease, the rare diseases in a whole affect around 6%-8% of the general population and the 50% of patients are children [1, 2]. Based on the rarity of these diseases, a general physician may not likely have a single patient in his/her whole career [3]. Furthermore, the diagnosis of these diseases are relatively hard, because the symptoms often vary between individual causes [4]. Therefore, it is important to refer patients to an appropriate healthcare expert who are familiar with the specific disease and symptom set. In order to create a good match between rare disease patients and experts, we created a novel machine learning application by implementing SVM regression on OMIM publication data [5, 6]. By using this machine learning approach, we distinguished 2,1224 experts over 209,110 people with publications in 1,292 diseases.

Related Work:

Methods:

Results:

Current and Future Directions:

Conclusion:

References: