**ELDER RESEARCH IMPROVES SPEED AND CONSISTENCY OF SSA CLAIMS PROCESS**

Elder Research, Inc. combined state-of-the-art text mining algorithms with traditional statistical techniques to create a solution for ranking disability claims for approval. The results were more accurate and more consistent than any single doctor’s decision and had similar accuracy to the combined decision of a committee of doctors.

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**CHALLENGE**

Identifying claims for disability that meet the requirements for approval is a time-consuming and error prone process. A recent analysis by the Social Security Administration showed that some claims were taking over 2 years to be processed, much too long for very ill or elderly claimants.

**DATA**

Claims data combines numerical, categorical and free-text data. Our challenge was to effectively integrate the unstructured text describing each patient’s symptoms with traditional structured data.

**OUR SOLUTION**

We use a data-driven statistical approach to text mining that allows the use of features created from both unstructured text and structured data. We use expert knowledge and advanced algorithms to normalize the text: fixing spelling errors, identifying multi-word phrases, and linking synonyms together. The normalized text is then transformed into a numeric feature vector, combined with the structured data, and fed into traditional data mining algorithms. This approach allows us to apply best-practices for evaluating the resulting models to ensure that the final model is the most effective for claims examiners.

**RESULTS**

Our combined approach exceeded the accuracy of previous automated approaches and was equivalent to the accuracy of the combined judgment of the review committee. This allowed 20% of the claims to be approved immediately allowing the organization to focus their effort on the most challenging cases and ensure that all statutory requirements were met.

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**INDUSTRY**

» Government

**BUSINESS ISSUE**

» Identify claims for disability in an accurate and timely manner.

**SOLUTION**

» Utilize both data and text mining to expedite the process of sure cases in need of immediate care.

**BENEFIT**

» Citizens in need of immediate SSA care receive aid more efficiently.

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**ABOUT US**

Elder Research Inc. (ERI) is the US’s leading consulting company in data mining, predictive analytics, and text mining. ERI helps government agencies and Fortune Global 500® companies solve real-world problems by amplifying the productivity of their analysts.

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