

INSURESENSE - A HEALTH RISK PREDICTION SYSTEM FOR LIFE INSURANCE USING MACHINE LEARNING

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ABSTRACT

Life insurance industry plays a giant role in sustainable economic growth in any country. Basically, insurance is transferring the risk of loss from one entity to another to exchange for payment. In the present era, the prevalence of non-infectious diseases is on the rise due to unhealthy lifestyle choices, environmental changes, and fast-food chains etc. As a result, people are increasingly opting for life insurance to mitigate the risks associated with these conditions. This action has created a competitive business market in the life insurance industry. The underwriting process is a challenging aspect of the life insurance industry. To determine the sum insured and premium amount, insurance companies require customers to fill out a questionnaire regarding their medical conditions. However, many people tend to lie about their health condition to receive a lower premium. By creating a win-win situation for both the insured and insurance company, people will be more willing to provide their accurate health details, and it will help insurance companies to be more competitive in the market. In the current insurance system, insurance companies assign different weights to policyholders' health conditions and use this information to calculate the premium. However, there may be instances where a policyholder develops a disease that is not covered under the policy, resulting in customer dissatisfaction and potential losses for the insurance company. This can be detrimental to the customer-insurer relationship and may impact the financial stability of the insurance company.

The main objective of this research is to predict the diseases a policyholder can get in the future and give more personalized insurance coverage. It is beneficial for the both parties insured and insurance company. Proposed solution for this need gap is disease risk prediction system using machine learning which collects the data from customer and predict the disease risk step by step approach. All the datasets to train this model were collected from trusted sources. The testing phase was executed with a well-designed plan and evaluated by experts in the domain. The final product exhibited excellent functionality and high accuracy, fulfilling various functional and non-functional requirements that were identified.