> "IN MY EXPERIENCE MACHINE LEARNING METHODS GENERALLY PERFORM BETTER FOR DISEASE PROGNOSIS"
>
> *-Dr. Ljubomir Buturovic*

Hear From OncoStem's Machine Learning Expert

OncoStem's proprietary machine learning-based algorithm was developed by world renowned statistician **Dr. Ljubomir Buturovic.** He has 20 years of experience in the use of machine learning and artificial intelligence for clinical diagnostics and has worked on FDA-cleared genomics tests for cancer. He has been an Adjunct Professor of Computer Science at San Francisco State University since 2005.

Q: Why is Machine Learning (ML) better for disease prognosis?

A: The key reason is that ML methods are strictly focused on maximizing diagnostic accuracy (and thereby improving patient outcomes). Another reason is that "transfer functions", used in ML are generally more flexible, allowing them to model complex processes. With classical Cox Proportional Hazards model, the drawbacks are that they are not designed to optimize accuracy and are instead suited for other purposes like hypothesis testing and parameter estimation.

Q: Describe the Machine Learning (ML)-based algorithm used in CanAssist Breast

A: The CanAssist Breast algorithm uses a machine learning-based algorithm called Support Vector Machine (SVM). During CanAssist Breast development we tried methods called ElasticNet, Support Vector Machine, Cox Proportional Hazards Model, Mixed Normal Models and Neural Networks. When used for prognostic modeling, the Support Vector Machine method turned out to be most accurate and beneficial to patients.

Key Benefits of Machine Learning

- Identifies key features from datasets
- Better for modeling complex processes
- Maximizes diagnostic accuracy
- Improves patient outcomes

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