

# AiRANACULUS™

## AI/ML driven solutions in Digital Health

**01** Predict infectious disease before symptom onset with AI/ML models

**02** Feature extraction techniques to reduce noise, dimensionality, training time

**03** Robust AI/ML based models for continuous monitoring of health & wellness

**04** DTRA and NAVY - funded robust resilient AI/ML models

| Conditions                 | External Publication*                     | AiRANACULUS – AI/ML Models  |
|----------------------------|---|---|
| Features                   | Heart Rate, Respiration Rate, Sleep       | Heart Rate, Respiration Rate, Sleep   |
| Devices                    | Three commercially available Smartwatches | Three similar commercially available Smartwatches                                 |
| Asymptomatic / Symptomatic | Symptomatic patients                      | Asymptomatic and Symptomatic patients   |
| Time Window                | 14 Days - Lab test                        | 14 Days – 48 Hours prior Lab test and 23 Days Prior – Lab test ( for some models) |
| Specificity(TNR)           | 88 %                                      | Similar   |
| Runtime                    | Not available                             | 0.2 secs (Ensemble), <10 min (CNNs)   |

\*<https://www.nature.com/articles/s41598-022-07764-6>

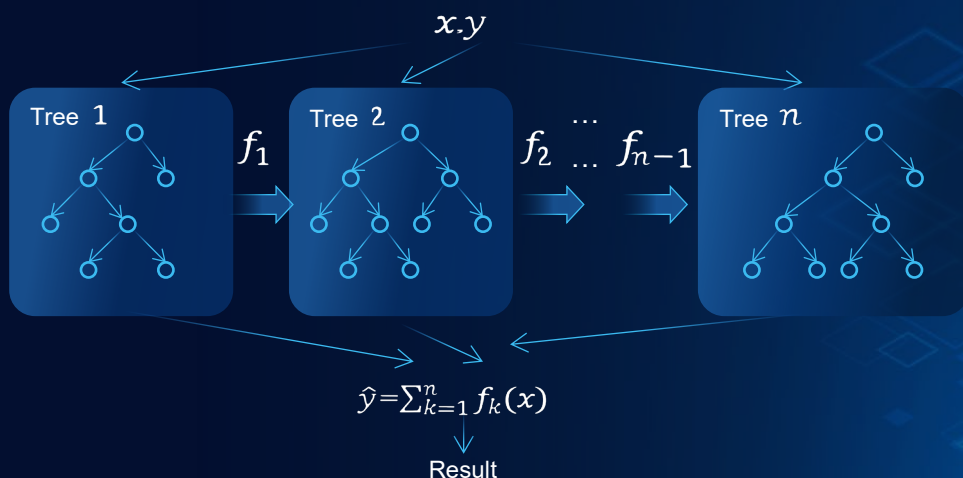
# AiRANACULUS® Disease Prediction

Infectious disease prediction validated using COVID-19 data

Early prediction capability of 48 hours before lab test

Less than 15% probability of False Positive Rates

Multi-Modal Fusion (MMF) to integrate wide variety of feature sets



# AiRANACULUS® Health Monitoring

AI/ML driven Performance and Wellness Tracking



Continuous health & wellness monitoring from smart wearables



Capturing vital physiological data (heart rate, respiration rate, sleep, etc.)



Simplified dashboard view for remote monitoring and clinical decision making

