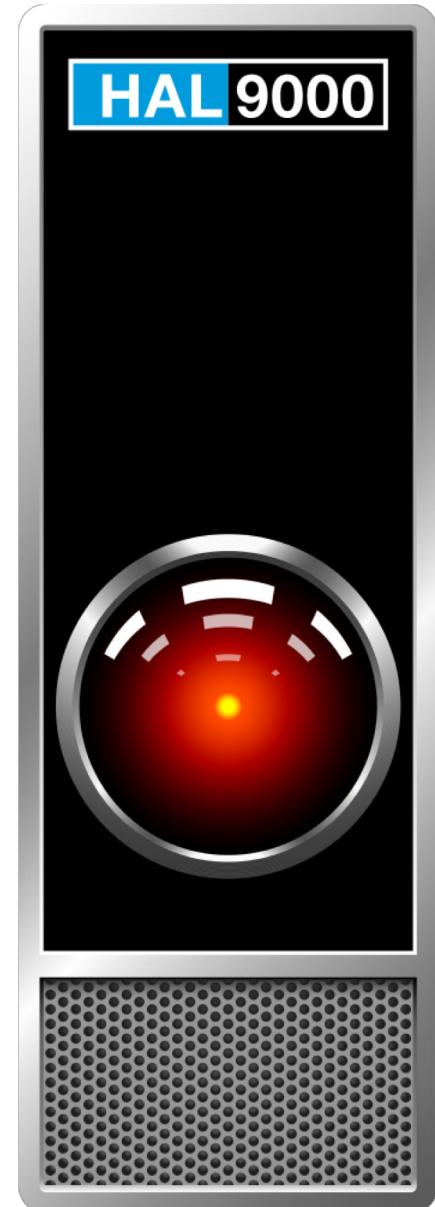


A large iceberg is shown floating in a vast ocean under a clear blue sky with scattered white clouds. The iceberg is mostly submerged, with only a small portion visible above the water's surface. The water is a deep, vibrant blue, transitioning to a lighter turquoise near the horizon.

biotx.ai

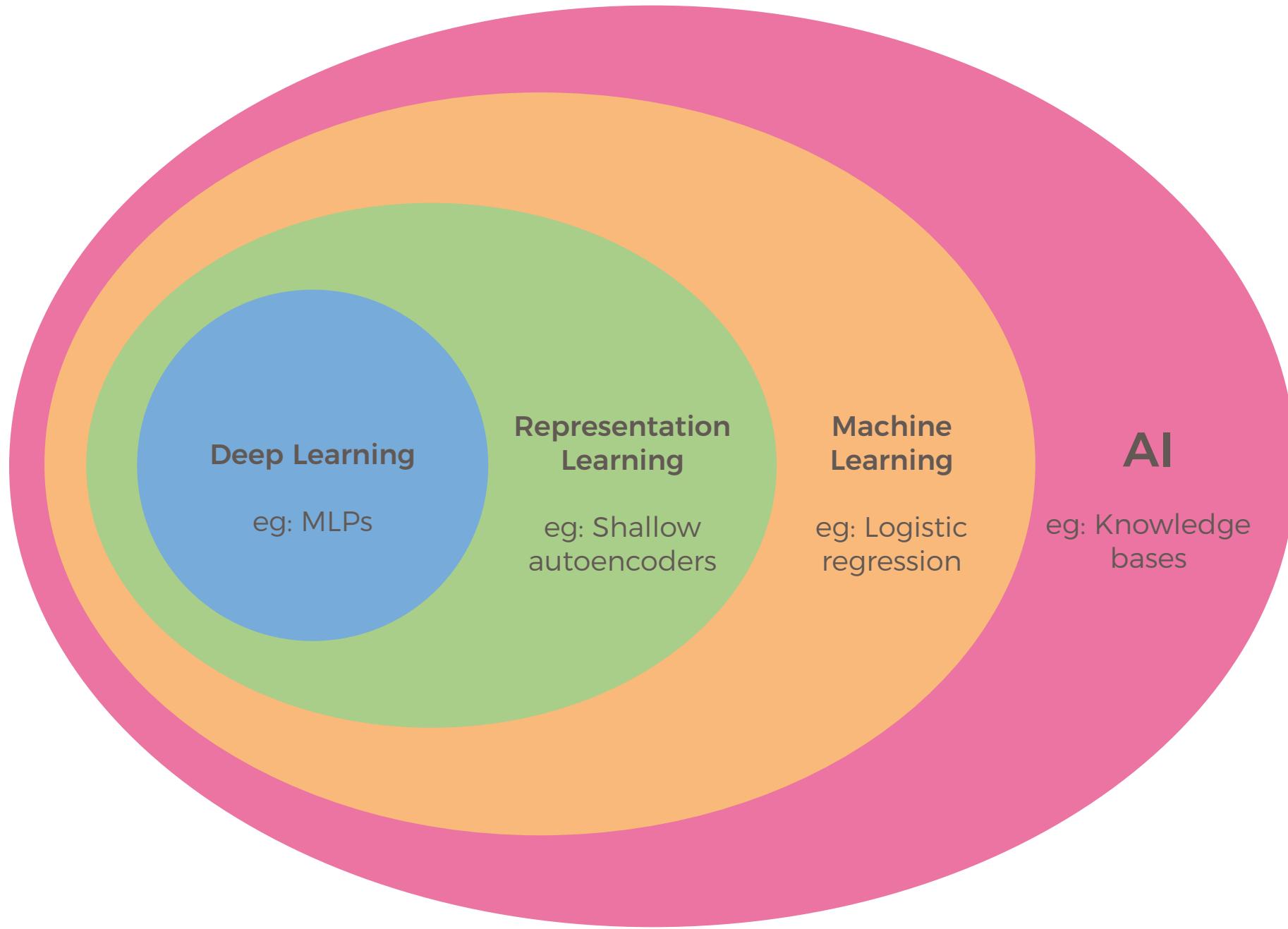
AI DESIGNED FOR BIOMEDICAL DATA





```
* @link https://devel...
* @package _s
*/
if ( ! function_exists( 'incode_starter_setup' ) ) :
    /**
     * Sets up theme defaults and registers support for various WordPress fe...
     * Note that this function is hooked into the init hook. The init hook is too late for some features...
     * runs before the init hook. The init hook is hooked into the after_setup_theme hook, which runs...
     * as indicating support for post thumbnails.
    */
function incode_starter_setup() {
    /**
     * Make theme available for translation.
     * Translations can be filed in the /languages/ directory.
     * If you're building a theme based on incode-starter, use a find and replace...
     * to change "incode-starter" to the name of your theme.
    */
}

```



# KNOWLEDGE BASED SYSTEMS

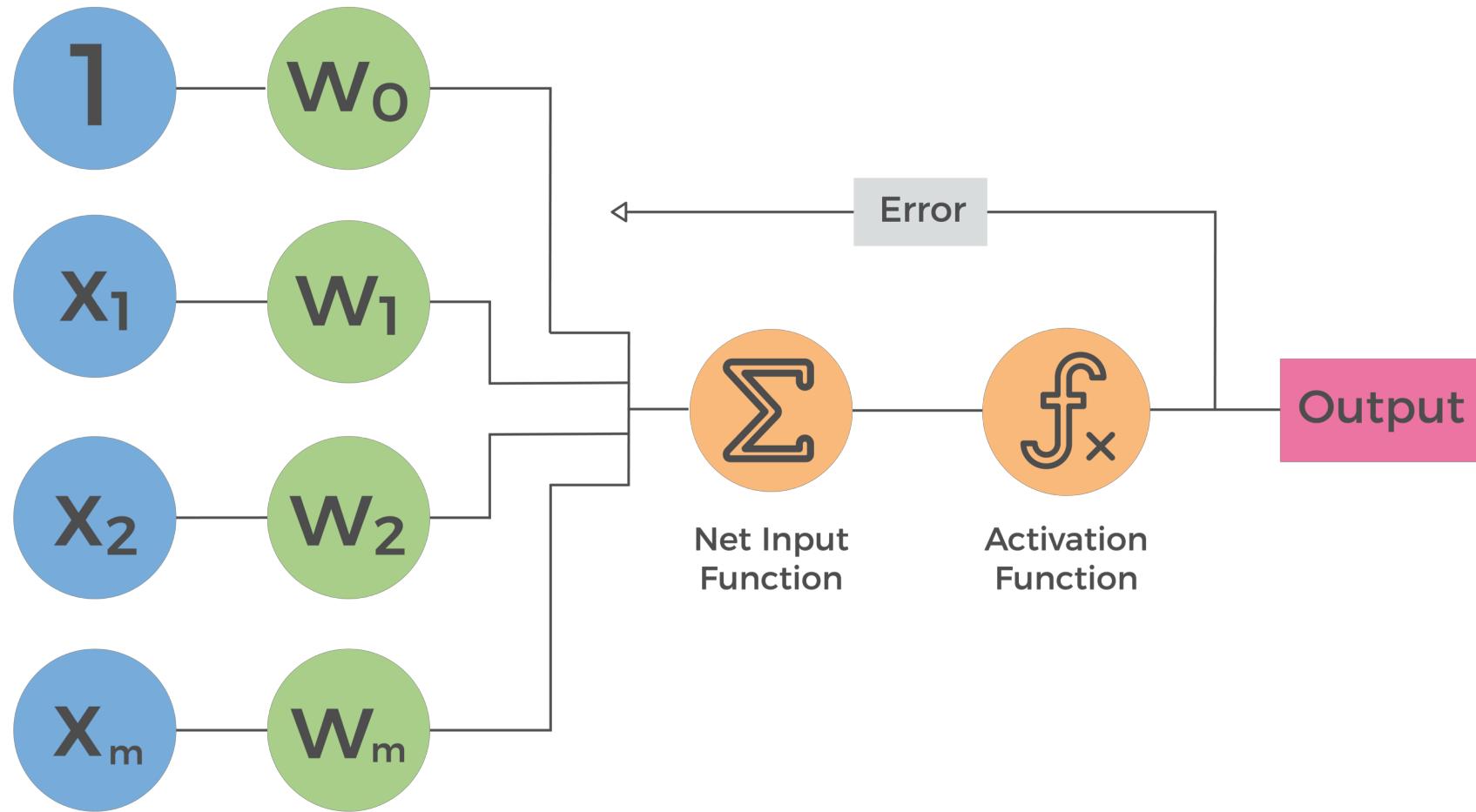
Replace human with a computer that contains all the relevant knowledge from a particular domain.



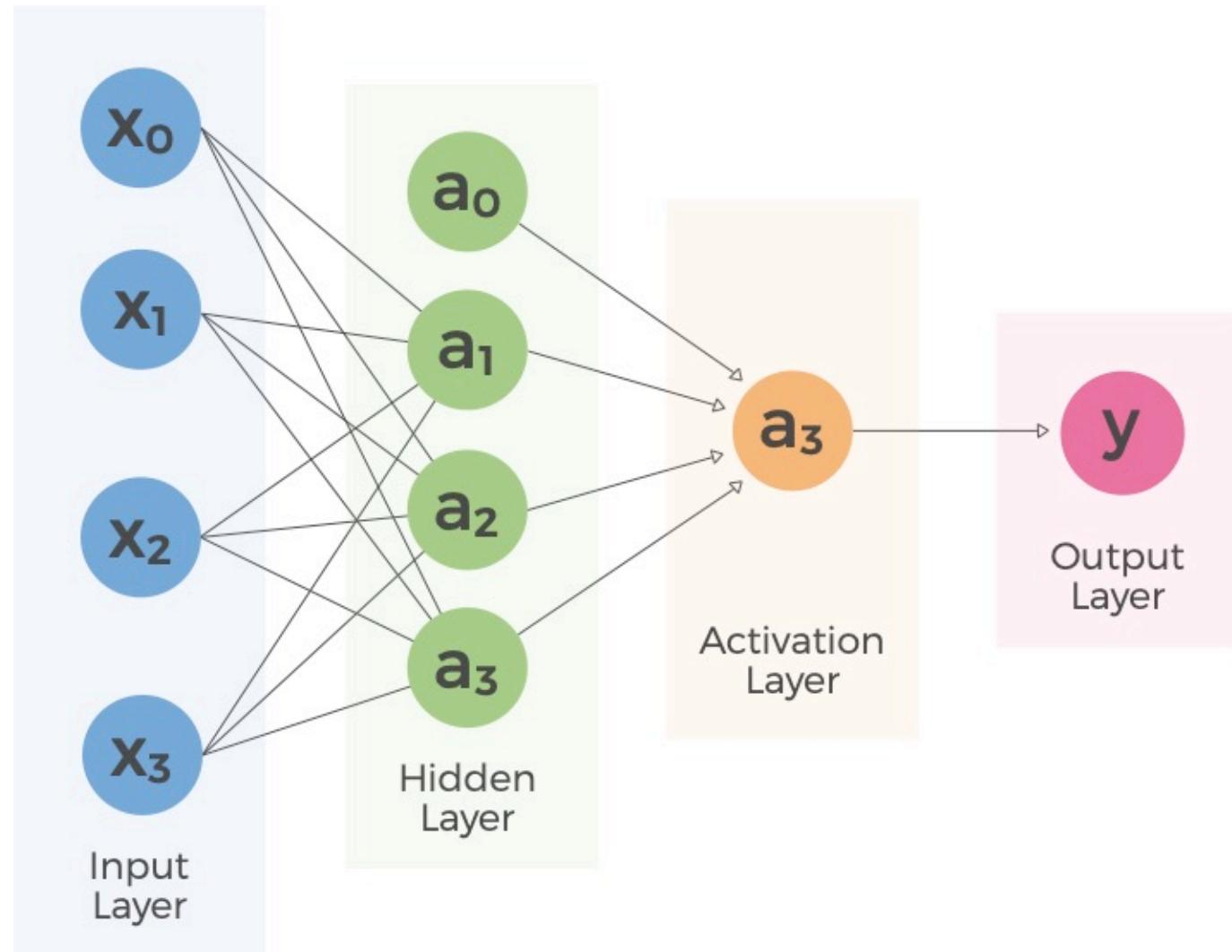
h  
i  
marco  
...

Hello  
I  
Marco

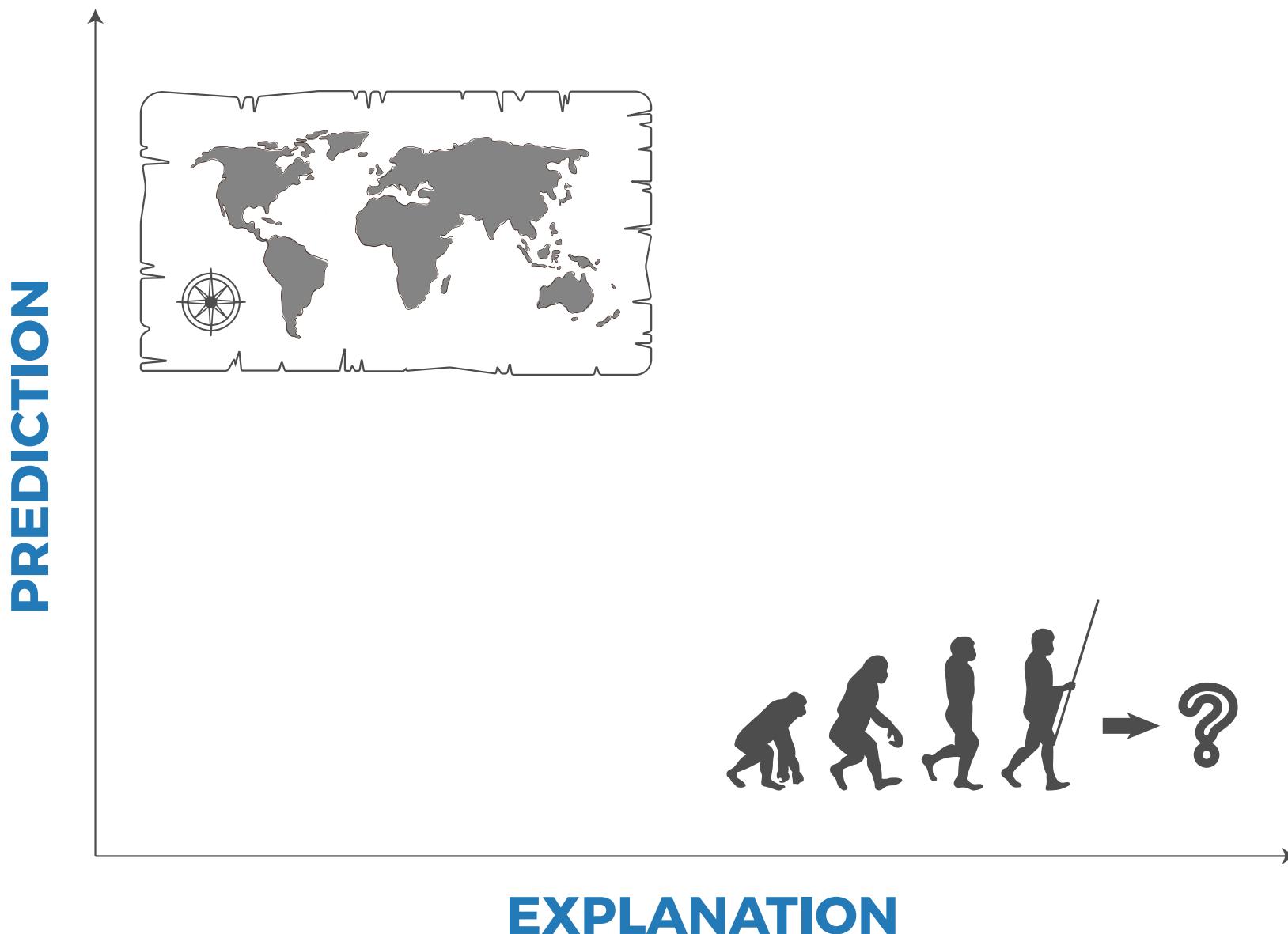
# MACHINE LEARNING



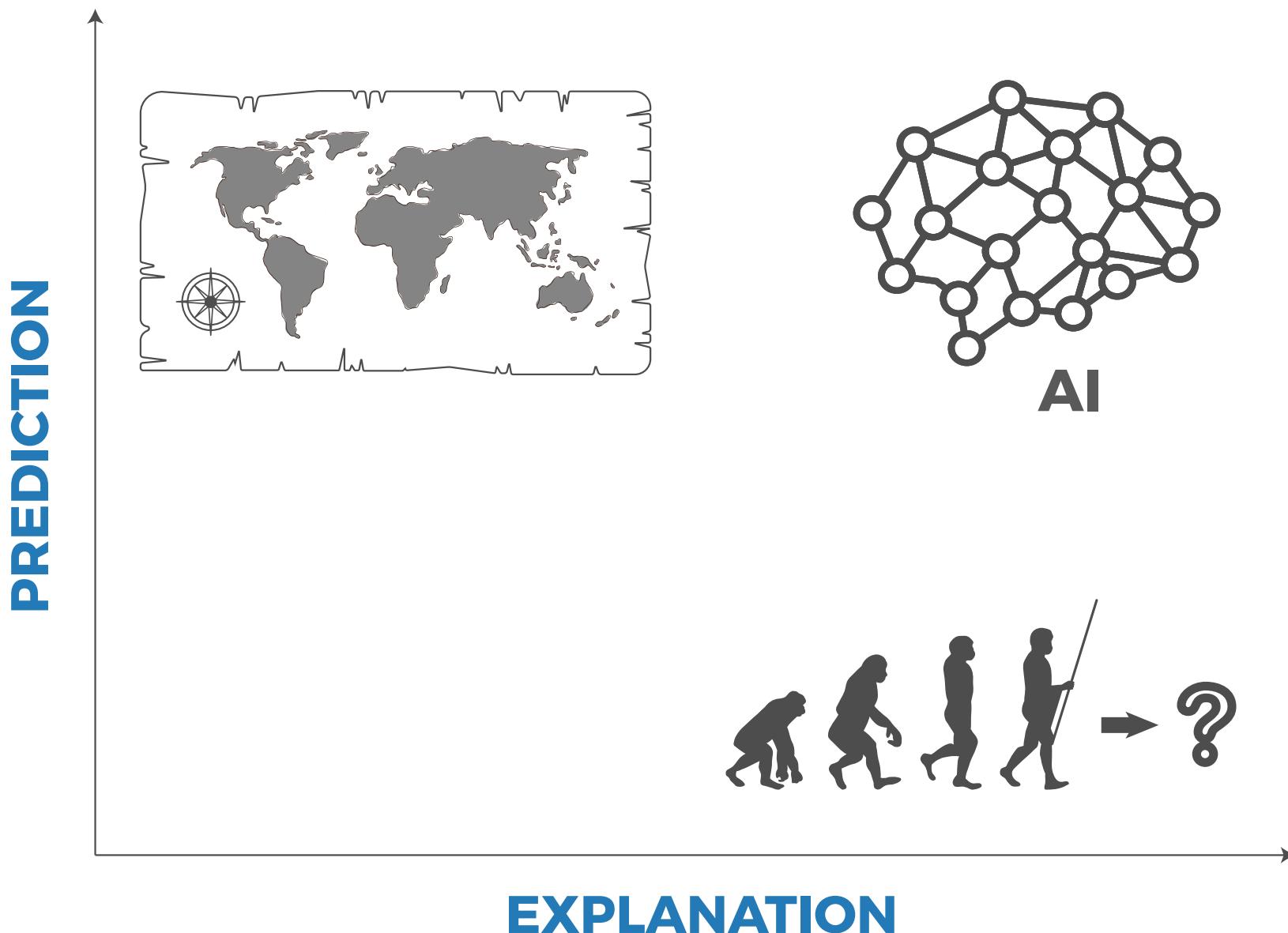
# REPRESENTATION / DEEP LEARNING



# EXPLANATION ≠ PREDICTION



# EXPLANATION ≠ PREDICTION



EXAMPLE  
**Alzheimer's Disease**



# EXPLANATION - APOE4 & AD



$$\text{AD frequency (\%)} = \frac{\text{Number of carriers in cases}}{\text{Number of carriers in cases and controls}}$$

\**Alzheimer's Disease Neuroimaging Initiative*: [www.adni.loni.usc.edu](http://www.adni.loni.usc.edu)

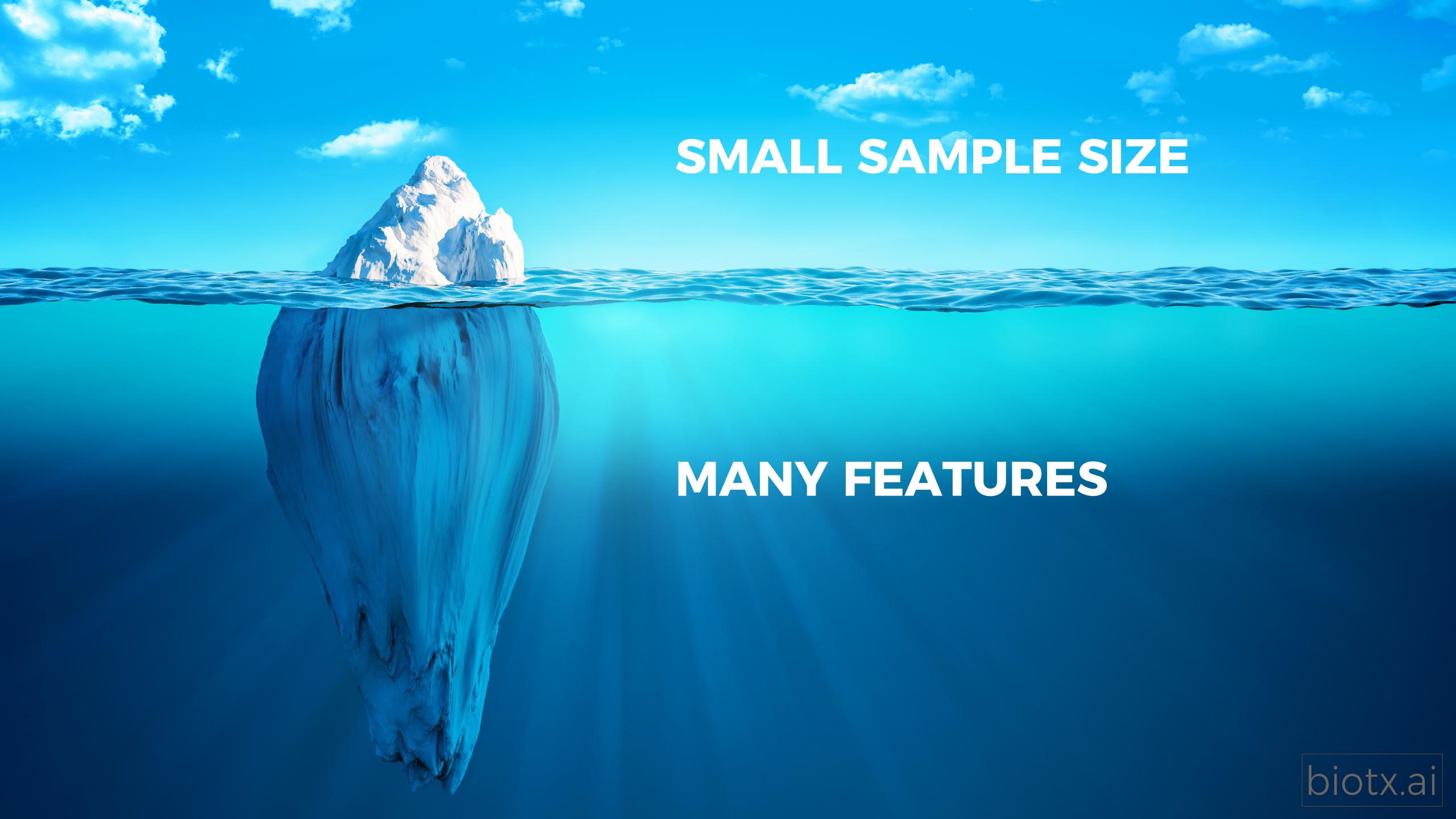
\*\*Database of Genotypes and Phenotypes (dbGAP): [www.ncbi.nlm.nih.gov/gap](http://www.ncbi.nlm.nih.gov/gap)

# PREDICTION - APOE4 & AD

		DIAGNOSIS BASED ON APOE4	
		NO AD	AD
TRUE STATE	NO AD	TRUE NEGATIVE	FALSE POSITIVE
	AD	FALSE NEGATIVE	TRUE POSITIVE

RECALL (SENSITIVITY) = TP / (FN + TP): **0.12**

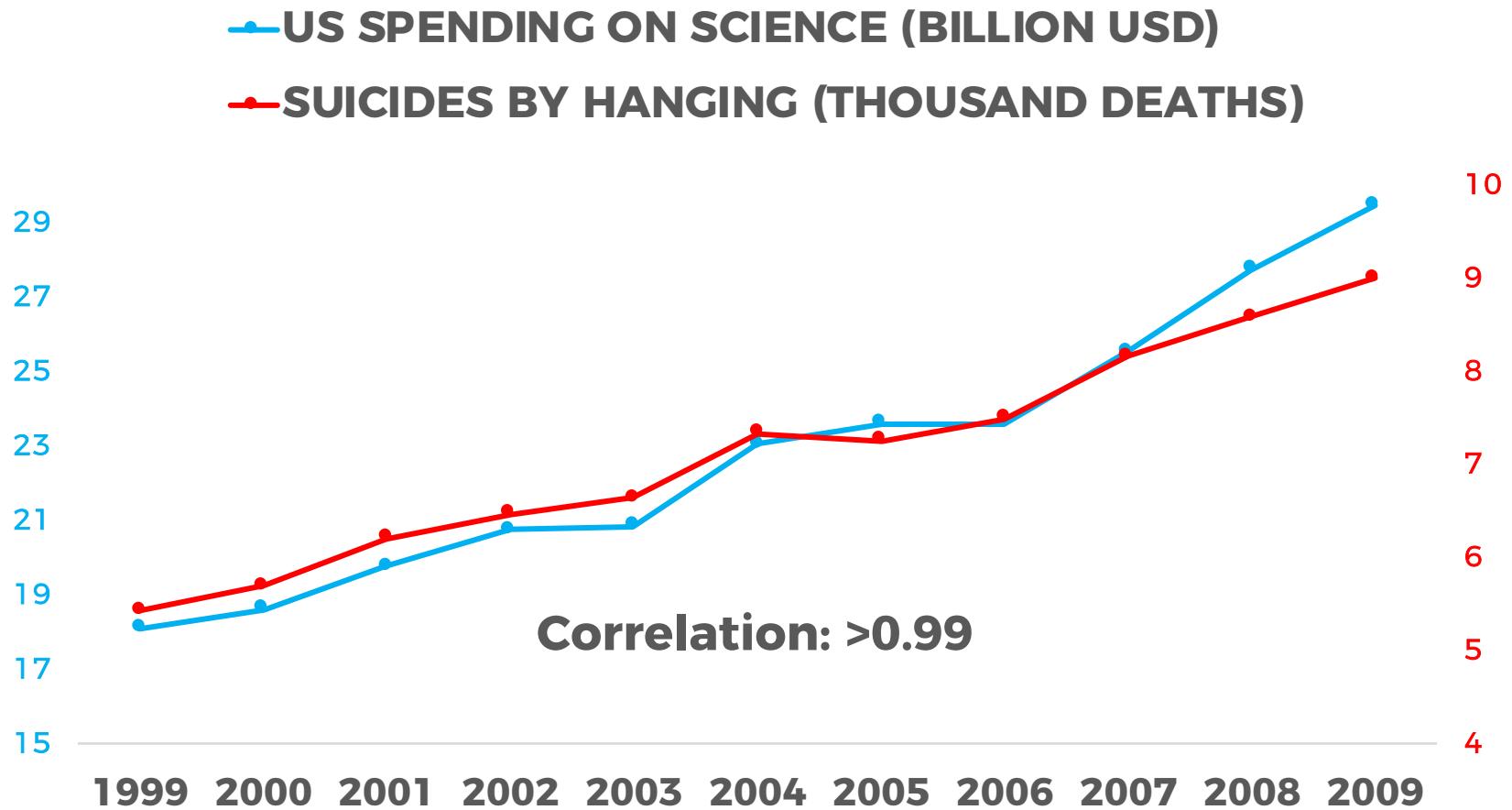
ACCURACY = (TP + TN) / (TP + TN + FP + FN): **0.58**



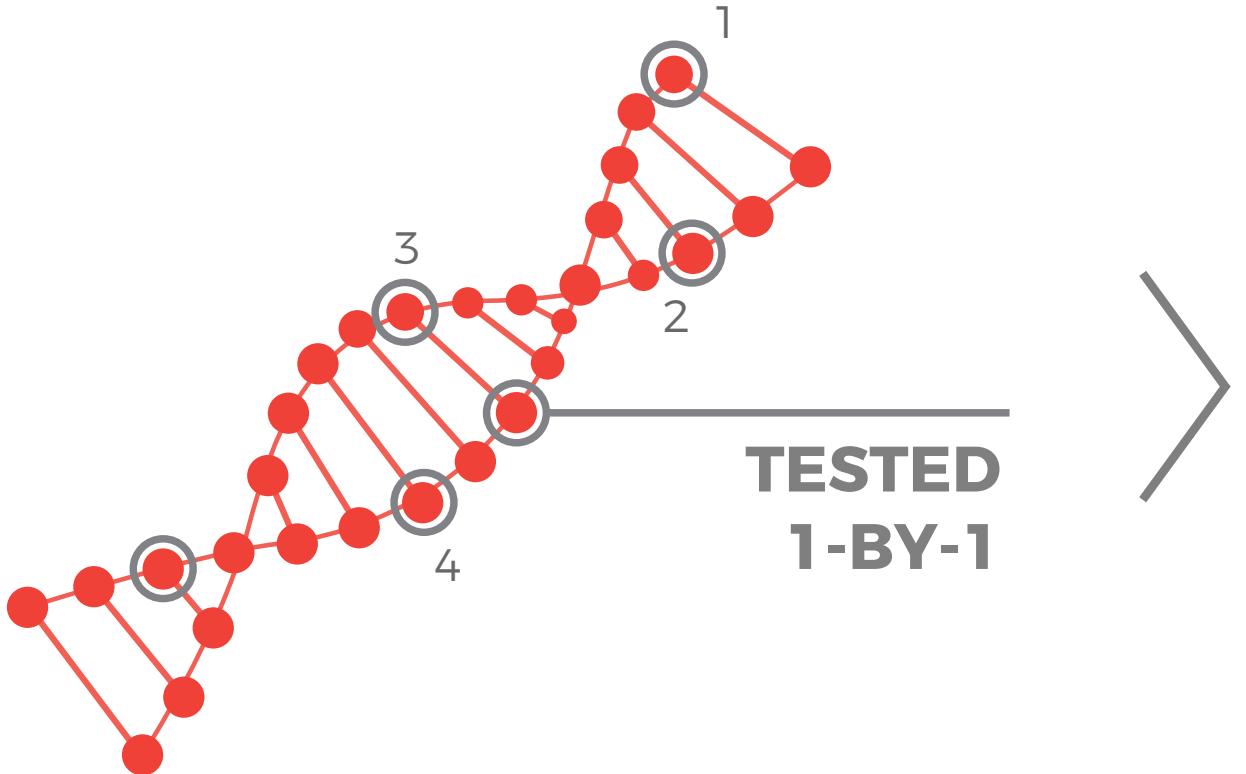
**SMALL SAMPLE SIZE**

**MANY FEATURES**

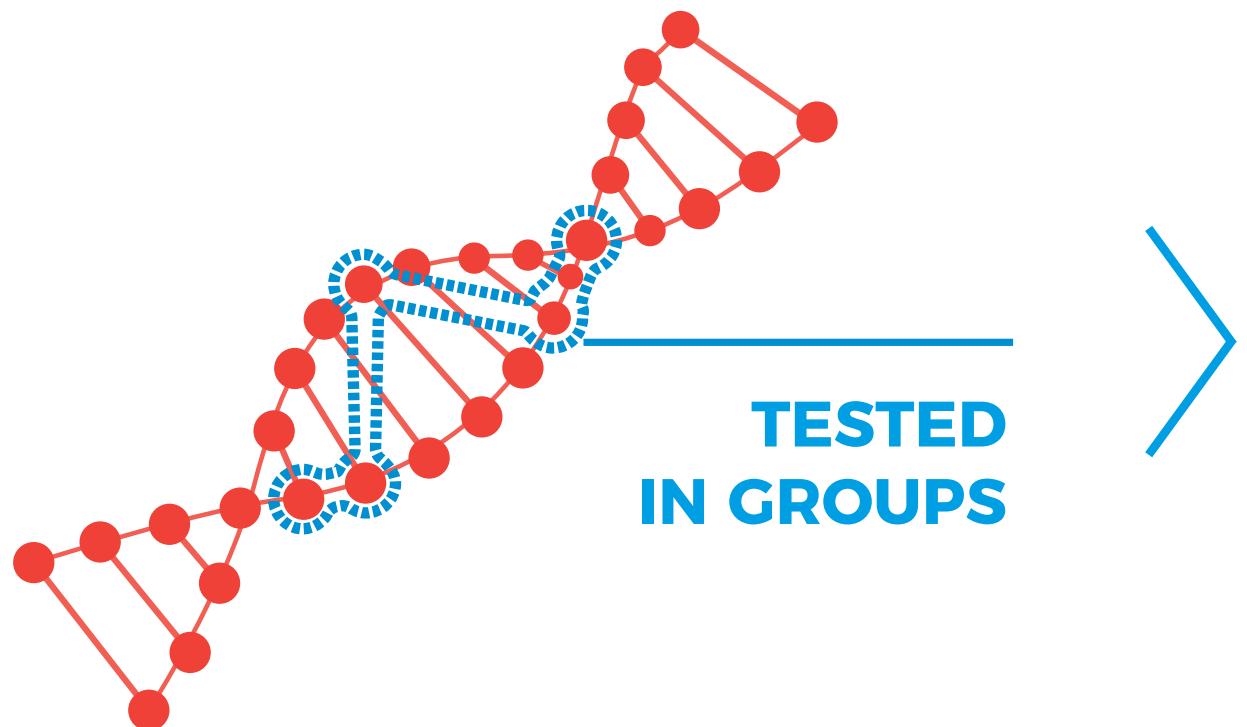
# COINCIDENTAL RESULTS



# STATUS QUO - EXPLANATION

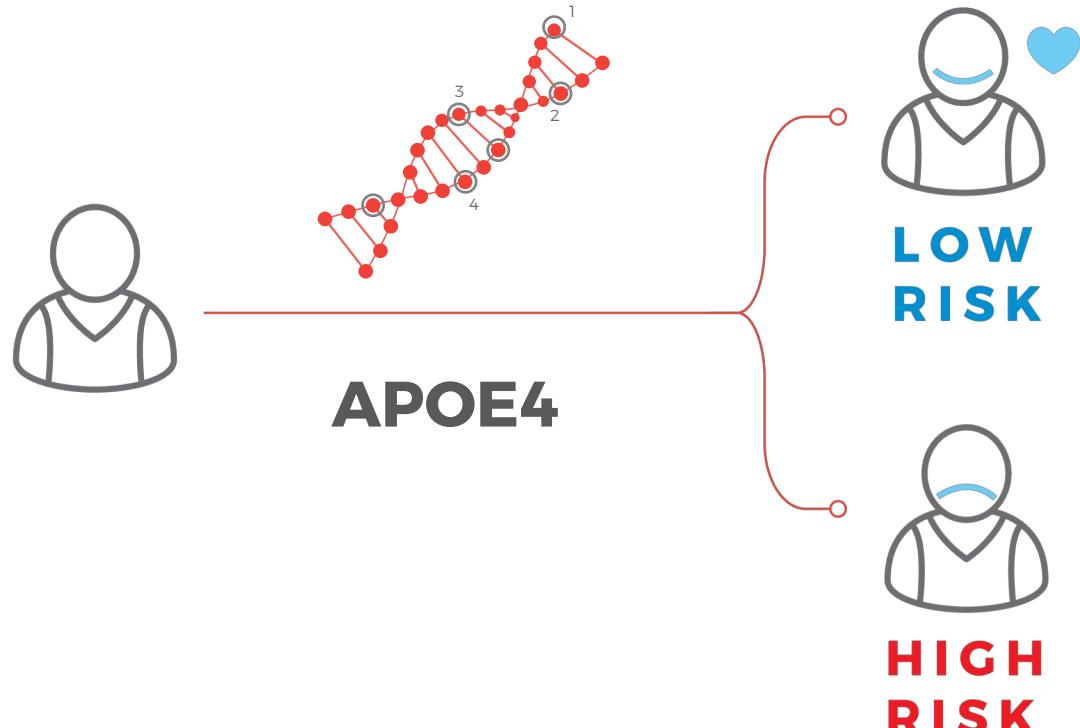


# BIOTX.AI - PREDICTION



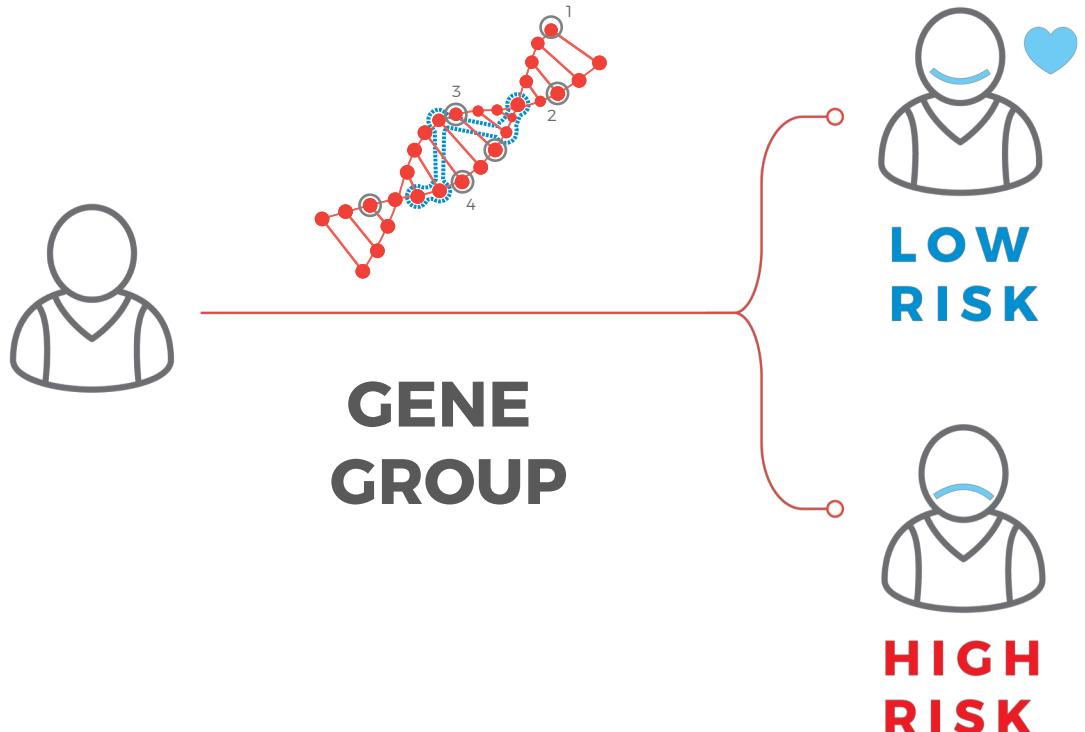
PREDICTION OF  
DISEASE STATUS

# APOE4 & ALZHEIMER'S DISEASE



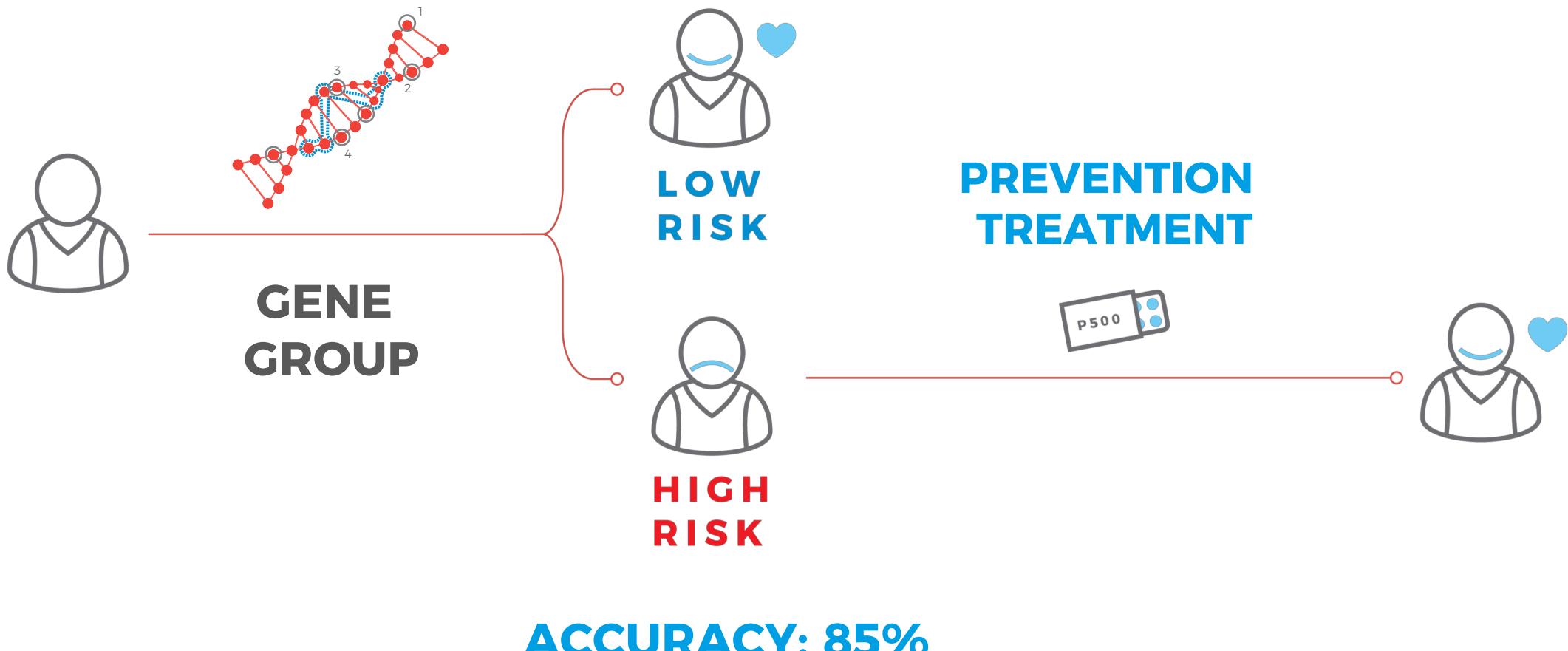
ACCURACY: 58%

# BIOTX.AI & ALZHEIMER'S DISEASE



**ACCURACY: 85%**

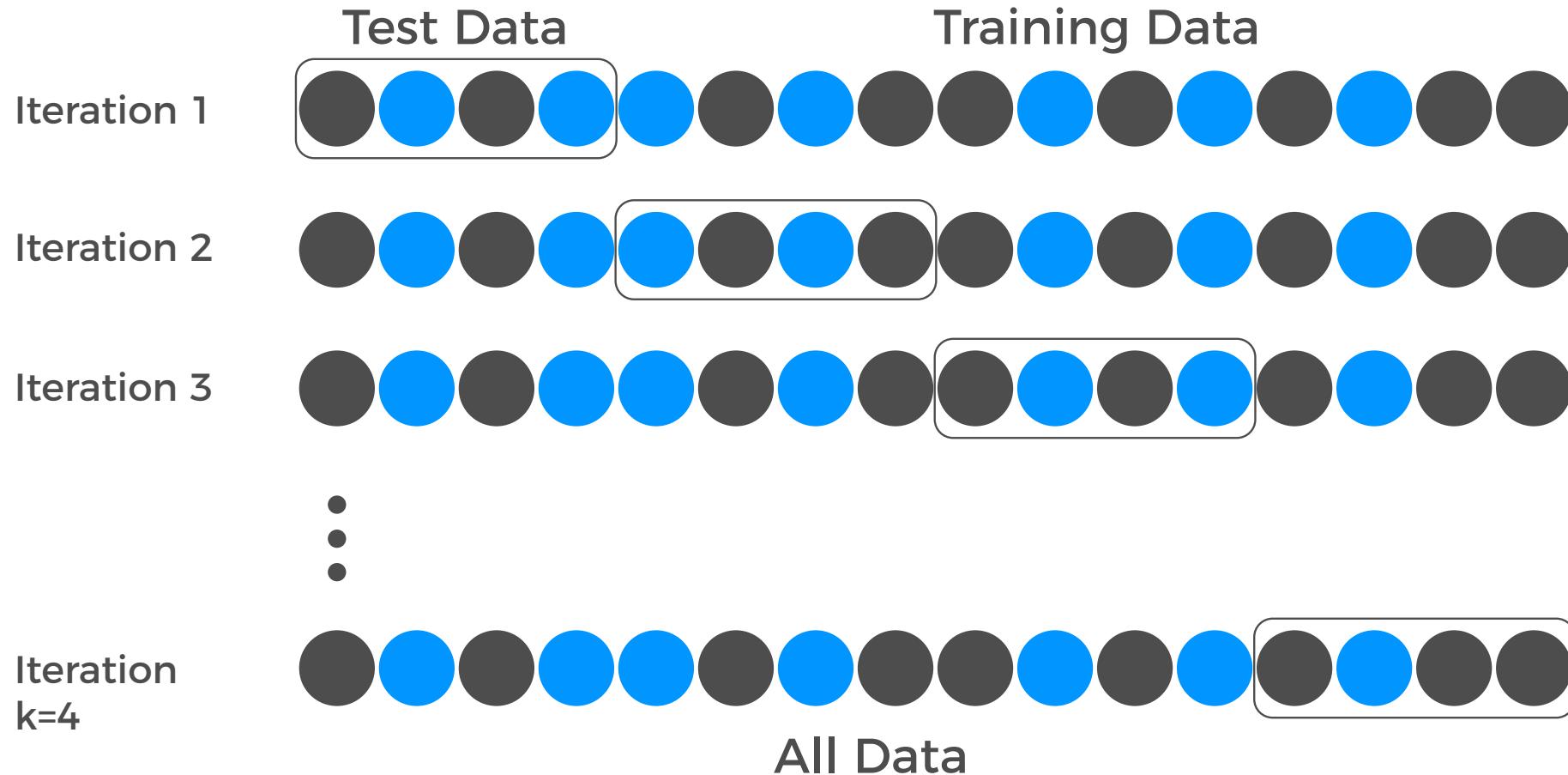
# BIOTX.AI & ALZHEIMER'S DISEASE



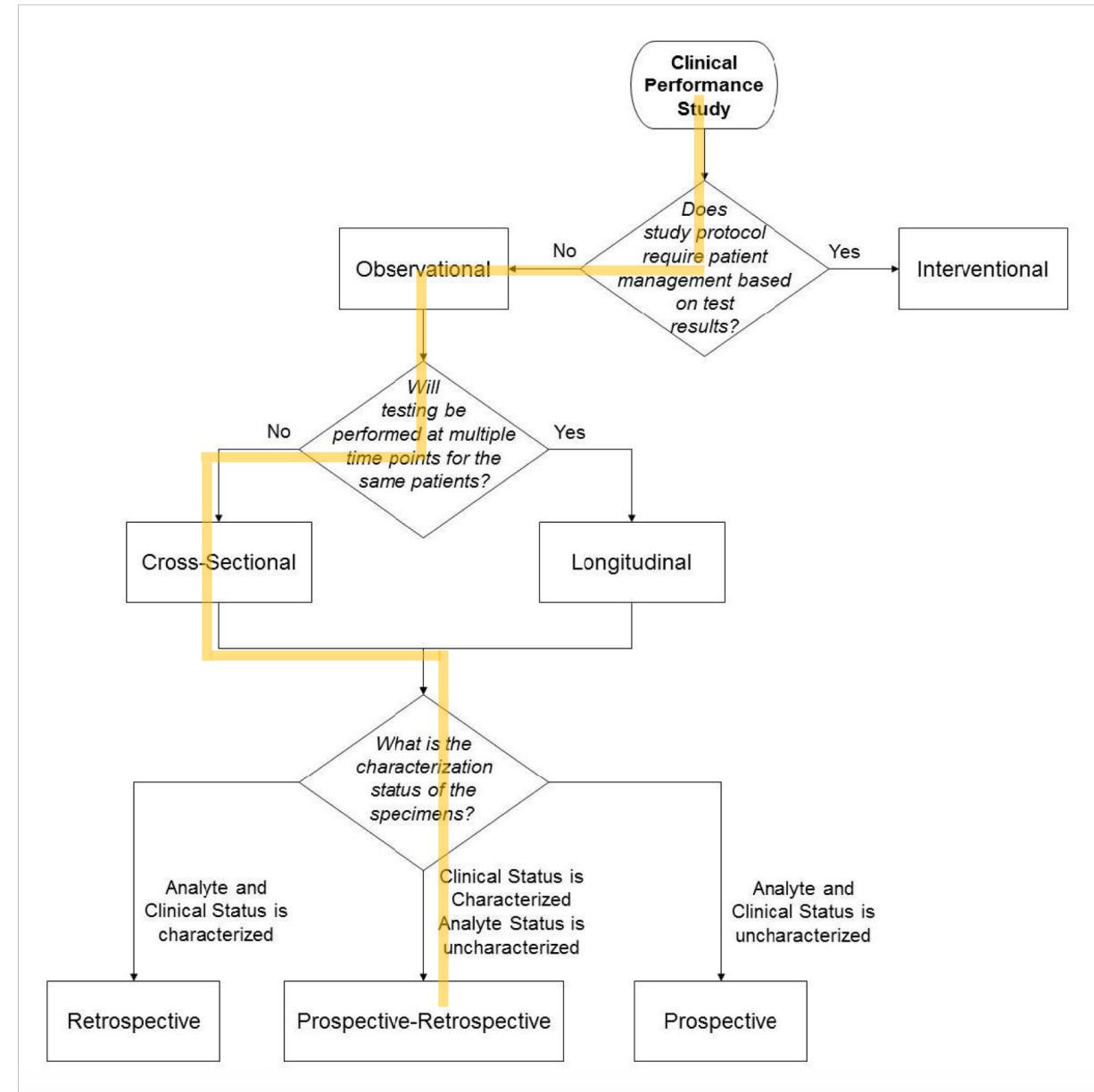
# OUR PORTFOLIO

DISEASE	OUR ACCURACY	BENCHMARK
ALZHEIMER'S DISEASE	85%	60%
CROHN'S DISEASE	> 80%	59%
HYPERCHOLESTEROL	> 90%	-
TYPE 1 DIABETES	> 85%	55%
RHEUMATOID ARTHRITIS	> 85%	55%

# OUT-OF-SAMPLE PREDICTION

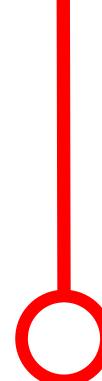


# NO PROSPECTIVE CLINICAL VALIDATION

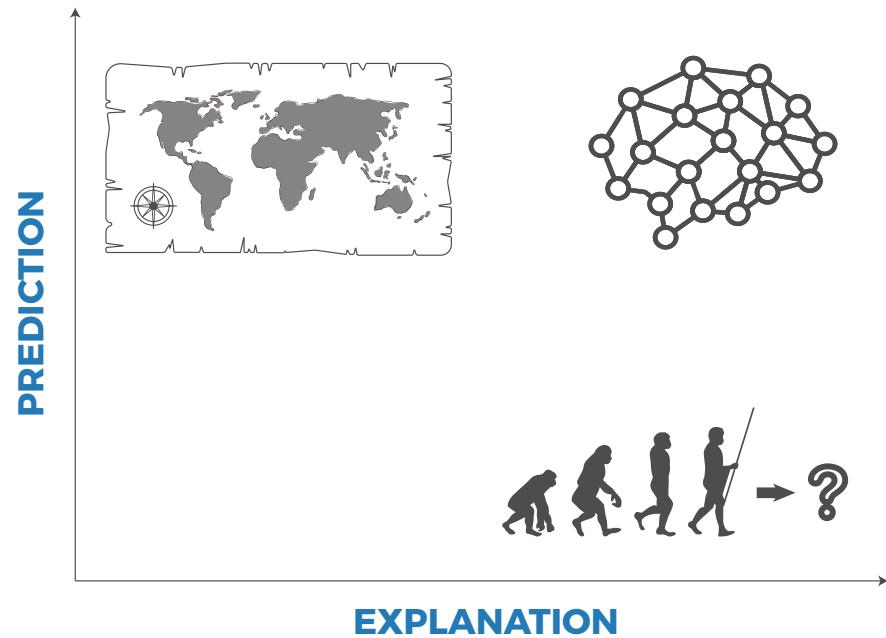


<http://www.imdrf.org/docs/ghtf/final/sg5/technical-docs/ghtf-sg5-n8-2012-clinical-performance-studies-ivd-medical-devices-121102.pdf>

# AI IN DIAGNOSTICS



## PREVENTIVE MEDICINE



## FASTER APPROVAL

