



Explainable Online Validation of Machine Learning Models for Practical Applications

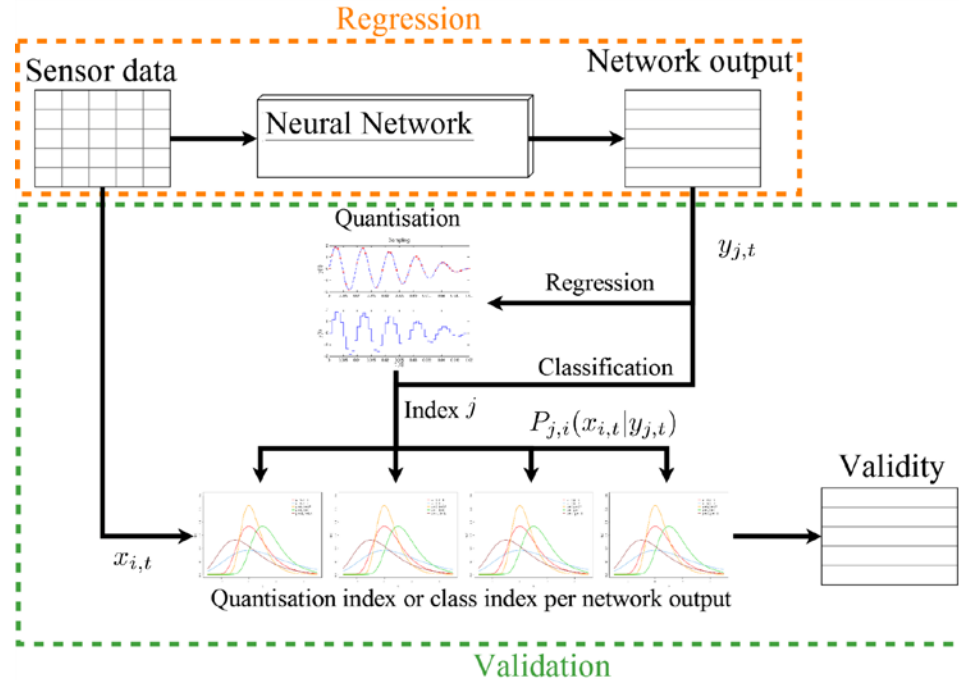


Introduction

- ML in industrial applications
 - Does it work on the current data?
 - Have we seen similar data before?
 - Why is the result valid/invalid?
- Explainable by the training data set and the model output
 - The current data is similar to X in our data set
 - Our model have seen X and has an accuracy of Y with deviation Z



Proposed algorithm



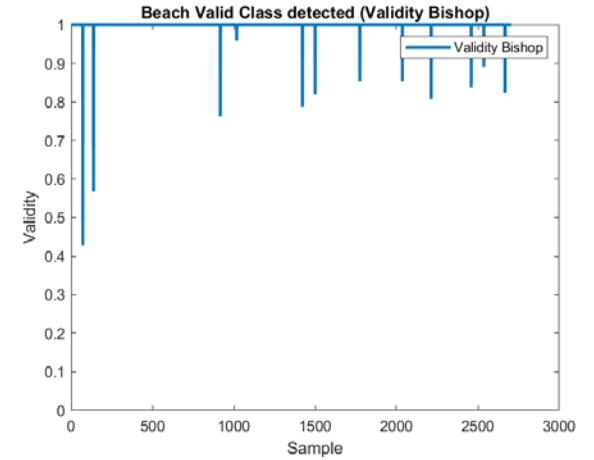
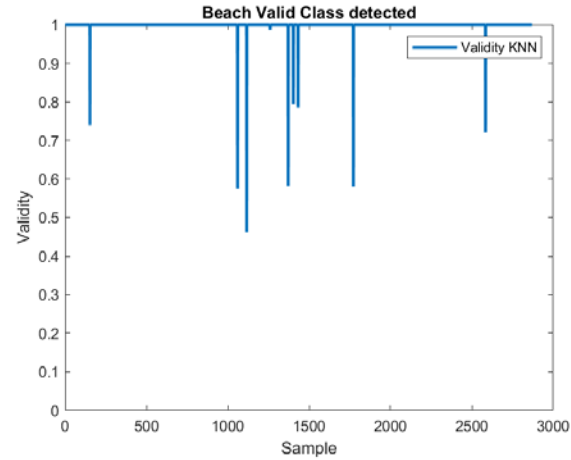
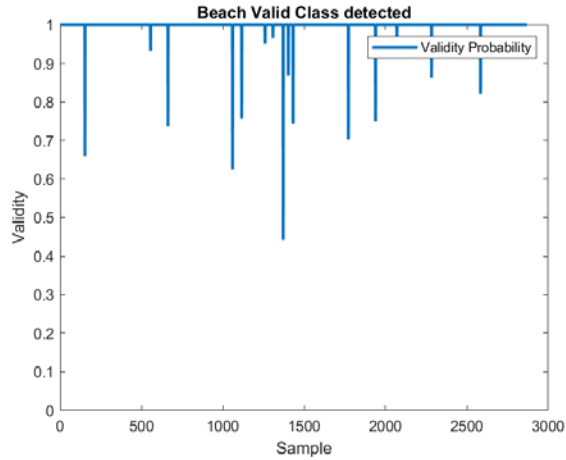


Results classification

		Beach						
Output Class	1	24 0.5%	1 0.0%	22 0.4%	38 0.7%	0 0.0%	2 0.0%	27.6% 72.4%
	2	6 0.1%	782 15.4%	49 1.0%	38 0.7%	212 4.2%	113 2.2%	65.2% 34.8%
	3	181 3.6%	38 0.7%	550 10.8%	147 2.9%	10 0.2%	168 3.3%	50.3% 49.7%
	4	262 5.2%	40 0.8%	363 7.2%	779 15.4%	0 0.0%	58 1.1%	51.9% 48.1%
	5	2 0.0%	230 4.5%	112 2.2%	5 0.1%	699 13.8%	104 2.1%	60.7% 39.3%
	6	0 0.0%	0 0.0%	1 0.0%	0 0.0%	0 0.0%	35 0.7%	97.2% 2.8%
		5.1% 94.9%	71.7% 28.3%	50.1% 49.9%	77.4% 22.6%	75.9% 24.1%	7.3% 92.7%	56.6% 43.4%
		Target Class						
		1	2	3	4	5	6	

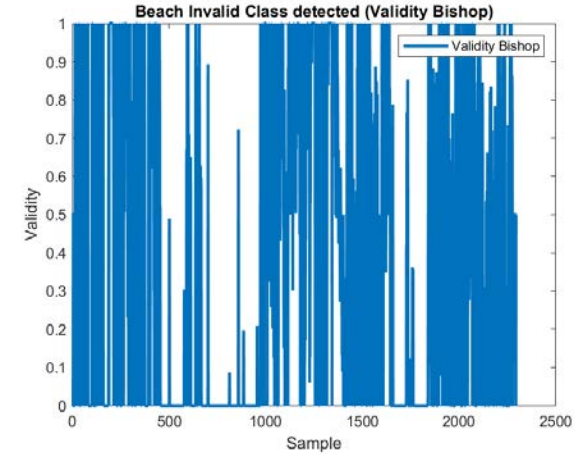
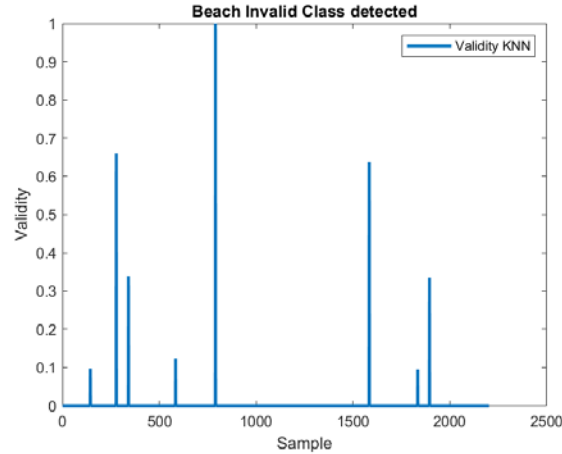
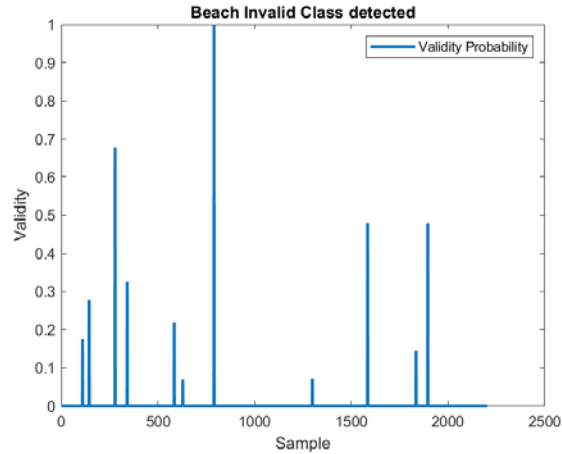


Results classification



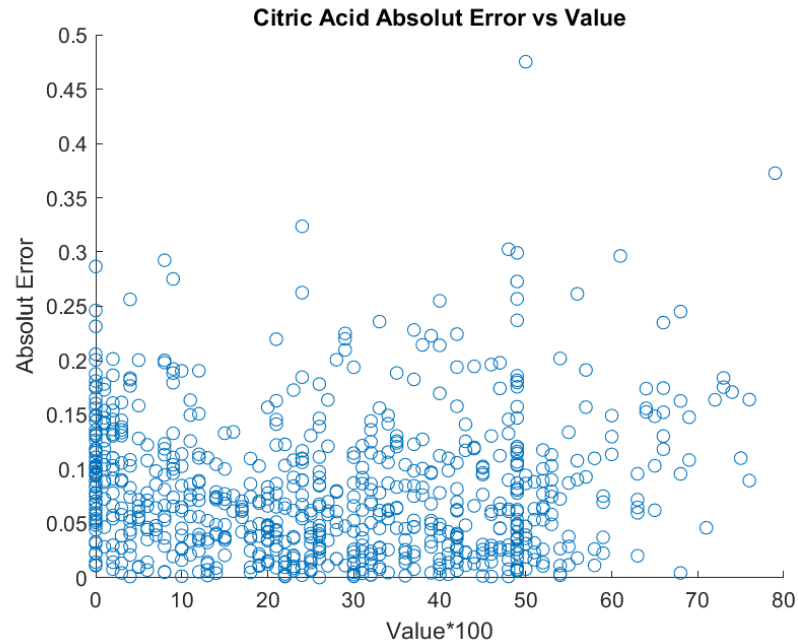


Results classification



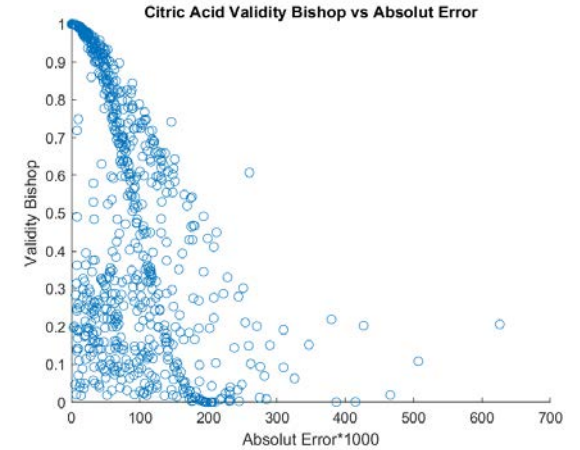
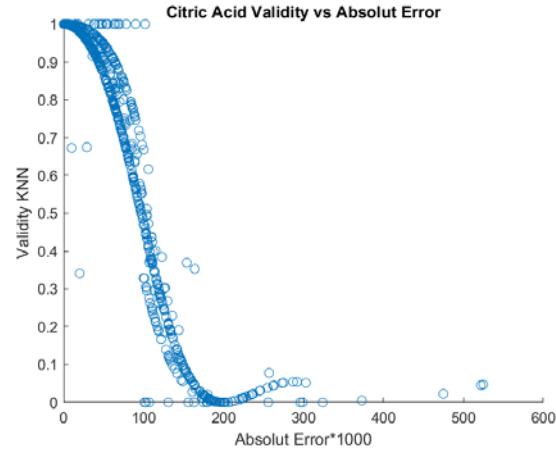
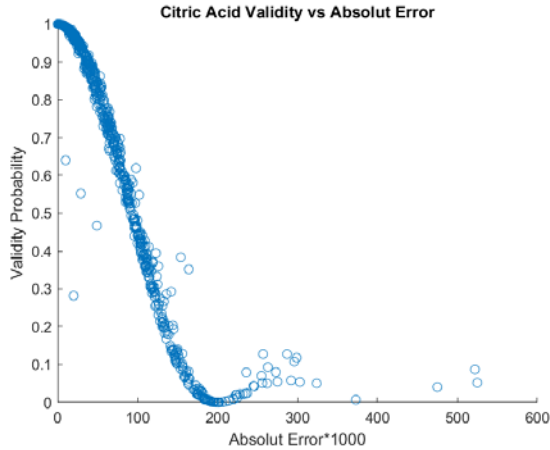


Results regression





Results regression





Thank you for your attention!