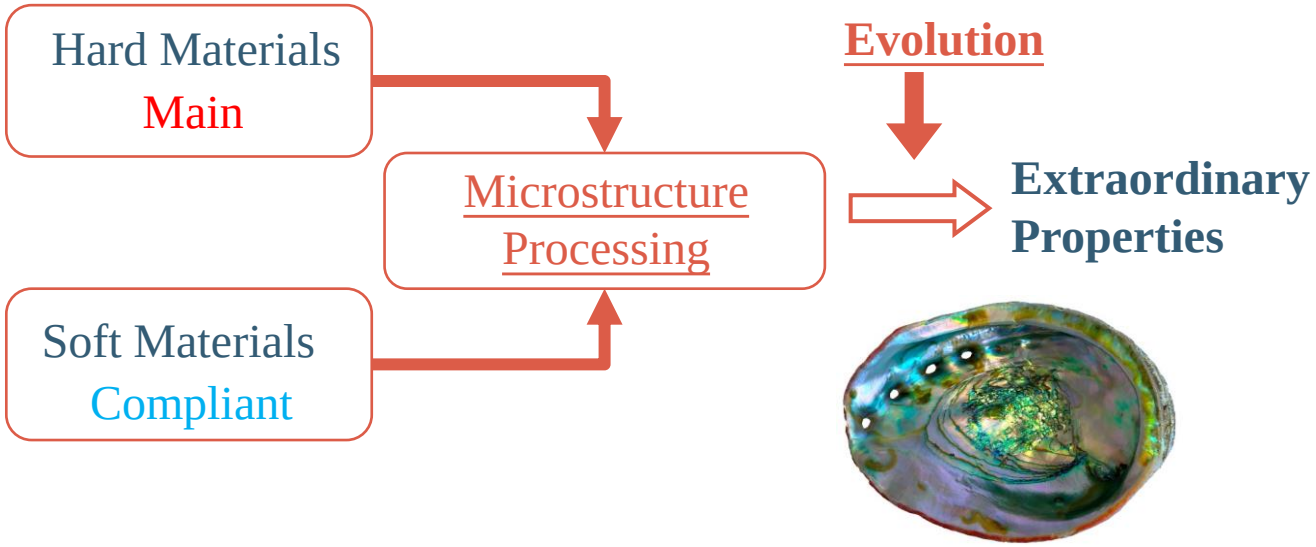
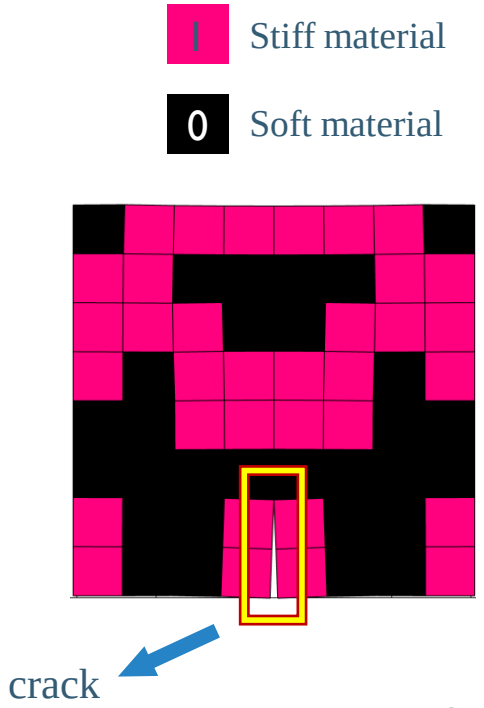
Midterm Mock Exam

狀況與問題

- 生物材料相較於傳統的人造材料而言，有著較為優異的性能，微觀結構是造成兩者有巨大差別的原因，像是複雜的軟硬材料排列就是原因之一。
- 這裡將利用軟硬材料的擺放，來改變整個材料的機械性質，強化材料抵抗裂紋擴張的能力，在資料中將會有四個分類代表材料性質的優異性。





Dataset and task introduction

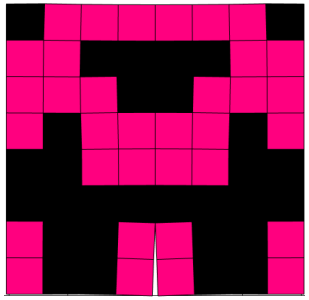
- Dataset : a csv file with composites information.
- Task : Multi-class Classification (Excellent/good/fair/bad)
- Classify the properties of composites.

Classification

Label
Excellent
good
Excellent
Excellent
bad
...

1 Stiff material

0 Soft material



File descriptions

- **train.csv** - the training dataset
- **val.csv** - the validation dataset
- **test.csv** - the testing dataset
- **sampleSubmission.csv** - a sample submission file in the correct format

Data Attribute Information

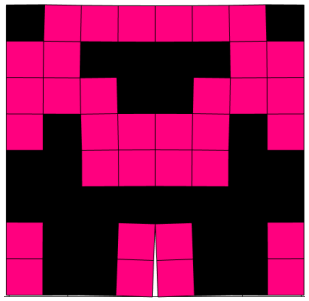
- **validation.csv:**

Composites information | Material properties | Target

	id	0	1	2	3	4	5	6	7	8	...	61	62	63	Hard E	Hard critical strain	Hard poisson's ratio	Soft E	Sotf critical strain	Soft poisson's ratio	Label
0	1_0001.02	1	1	1	0	0	1	1	1	1	...	1	1	1	100	0.03	0.05	0	0.20	0.08	Excellent
1	1_0002.01	1	0	1	1	1	1	0	1	1	...	0	1	1	400	0.01	0.21	0	0.12	0.19	good
2	1_0003.01	1	0	0	0	0	0	0	1	1	...	0	0	0	200	0.00	0.05	100	0.07	0.25	Excellent
3	1_0004.01	0	0	0	0	0	0	0	0	0	...	0	1	1	750	0.04	0.17	100	0.15	0.25	Excellent
4	1_0005.02	0	0	0	1	1	0	0	0	1	...	1	1	0	950	0.01	0.04	0	0.19	0.30	bad
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

1 Stiff material

0 Soft material



8*8

0~63

Sample submission

- Predict 86100 number of data in the test set (test.csv)
- Upload format is csv.
- The first column must be index, the second column is the predicted result (Label).
- Each row is index and predicted label, please separate with commas.
- Evaluation: accuracy

Original label		Submitted label
Excellent	→	1
Good	→	2
Fair	→	3
bad	→	4

	A	B
1	index	Label
2	0	2
3	1	2
4	2	1
5	3	1
6	4	1
7	5	2
8	6	2

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