

ómica

A stylized graphic on the right side of the word 'ómica'. It features a white DNA double helix structure. The top part of the helix is composed of a series of white dots of varying sizes, arranged in a spiral pattern. The bottom part of the helix is composed of a series of white lines, also arranged in a spiral pattern. The entire graphic is set against a solid green background.

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Week report

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September 4th, 2020

In-silico



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Genomes comparison

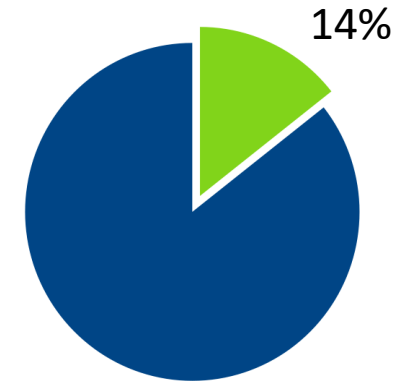
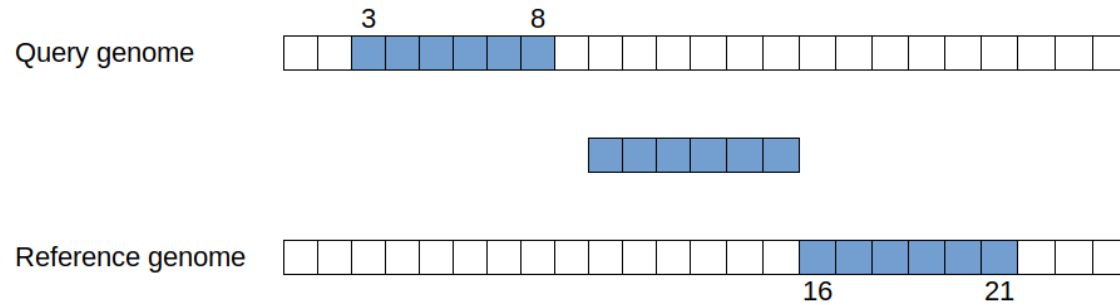
	Sr	Er	Sq	Eq	len_r	len_q	%IDY
0	8701	184119	1	175451	175419	175451	99.88
1	184133	193002	176105	184984	8870	8880	98.93
2	193099	218454	184979	210400	25356	25422	98.49
3	218635	246229	225148	252840	27595	27693	98.36
4	247275	249168	252834	254721	1894	1888	98.94



	qpos	qbase	rpos	rbase	inversion
0	1	a	8701.0	a	False
1	2	a	8702.0	a	False
2	3	a	8703.0	c	False
3	4	c	8704.0	c	False
4	5	c	8705.0	c	False

5.208 contigs

44.011.168 Mb



86% mapped

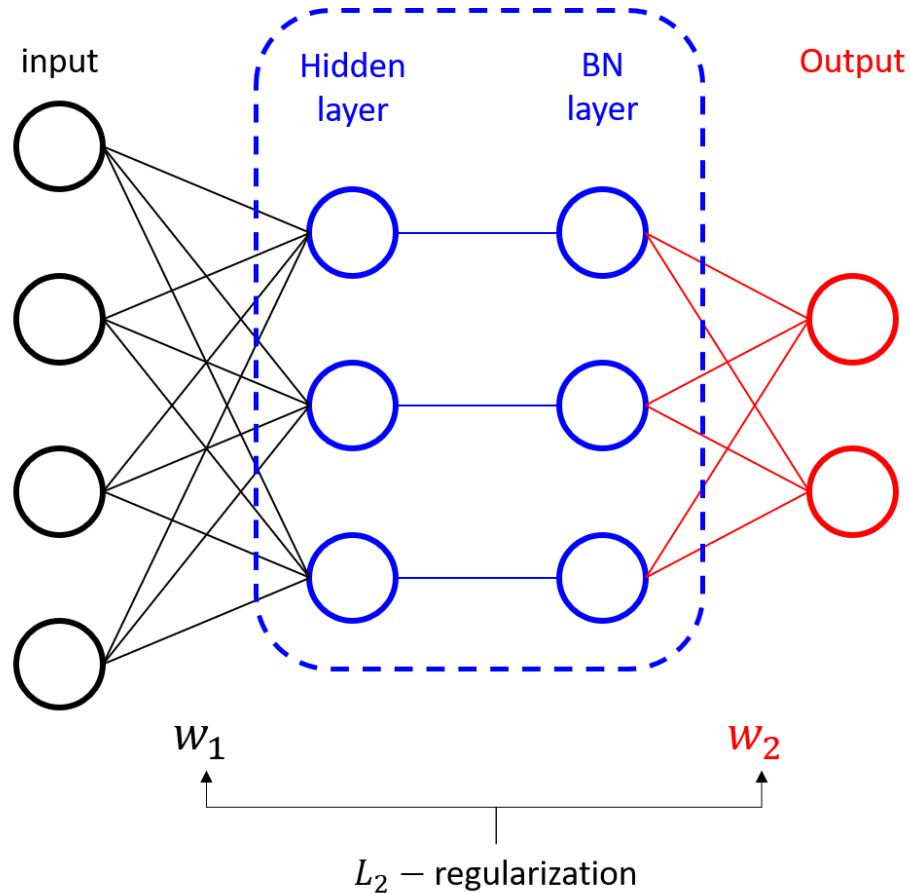
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**Input:**

Adjacency matrix $A \in \{0, 1\}^{N \times N}$

Attribute matrix $X \in \mathbb{R}^{N \times D}$

Real affiliation matrix $Z \in \{0, 1\}^{N \times C}$

Output:

Affiliation matrix $F \in \mathbb{R}_{\geq 0}^{N \times C}$

Threshold $\rightarrow F \in \{0, 1\}^{N \times C}$

$$F := \text{GCN}_{\theta}(A, X)$$

$$= \text{ReLU}(\hat{A} \text{ReLU}(\hat{A}XW^{(1)})W^{(2)})$$

Real affiliation matrix

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	...	Cluster C
Gen 1	1	0	0	1	...	0
Gen 2	0	0	0	1	...	1
Gen 3	0	0	0	0	...	0
...
Gen N	0	1	1	1	...	1

Reported
stress-responsive
genes to salt stress

?



Problem:
Gene nomenclature

Feat name
13105.t00687



Locus identifier
LOC_Os01g46380

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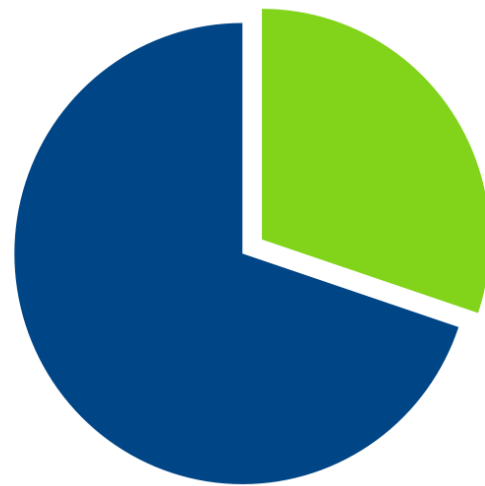
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Gene nomenclature conversion

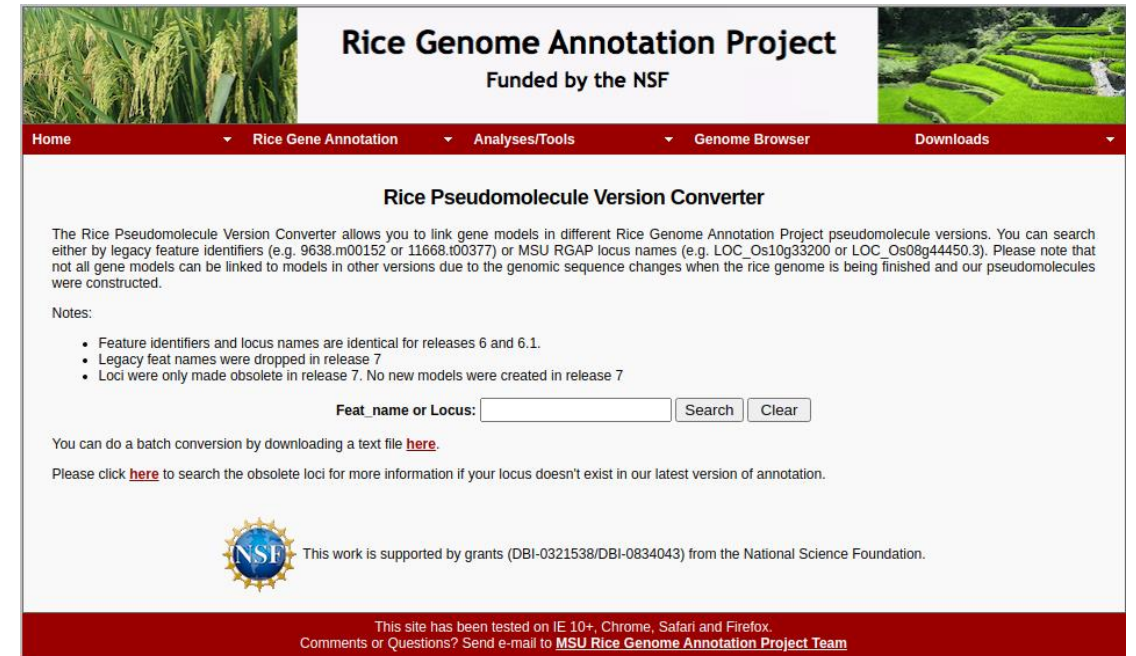
From the supplementary material of an article



2693 genes
30%

6235 converted genes
70%

Web Scraping



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Aliados



Apoyan



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[VIGILADA MINEDUCACIÓN Res. 12209 de 2016]