



**Compression Algorithm to
reduce cows space
consumption.**

Jäger bomb



Ingredients

- Jägermeister
- Red Bull

Team Presentation



David Alberto
Cuadros Mariño



Juan Sebastián
Jácome
Burbano



Mauricio
Toro



<https://github.com/jsjacomeb/STO245-003>

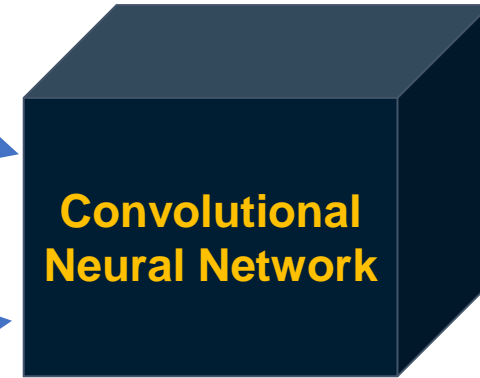
Training Process



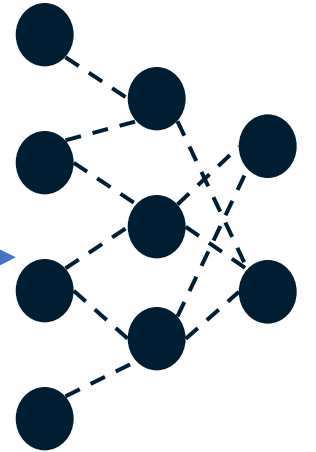
Sick-Cattle Images



Healthy-Cattle Images

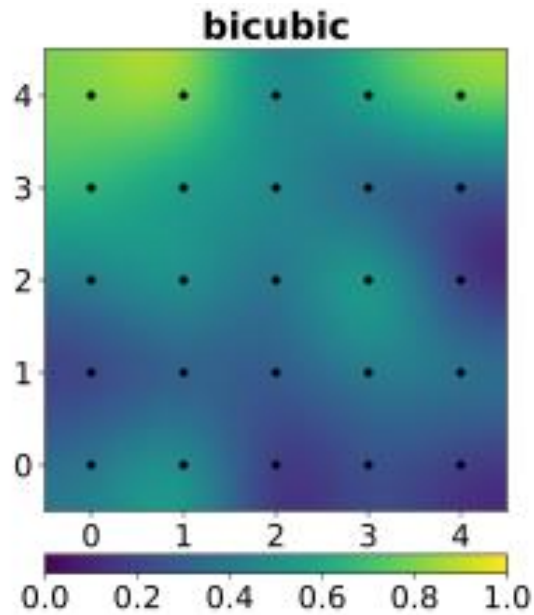


**Classification
Algorithm**



**Classification
Model**

Training Process



10	20
30	40

2x2

2x

7	10	16	19
13	17	22	26
24	28	33	37
31	34	40	43

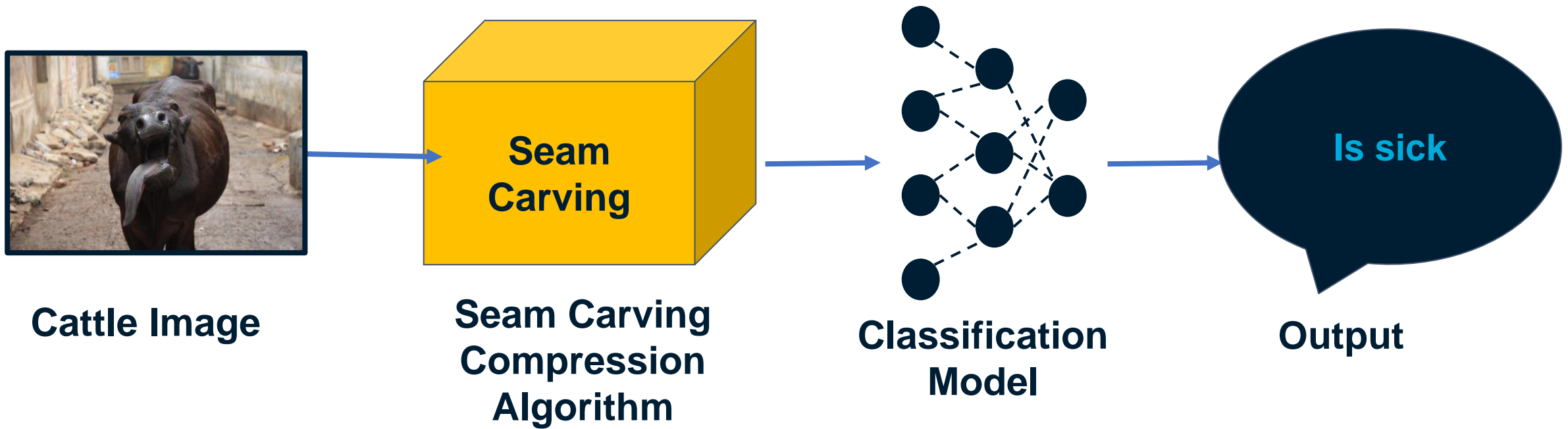
4x4

$$p(x, y) = \sum_{i=0}^3 \sum_{j=0}^3 a_{ij} x^i y^j.$$

Bicubic interpolation which is a extension of the cubic interpolation which interpolated Surface is smoother than the ones from the bilinear or nearest-neighbor



Family Guy (tenth season, chapter 11)



Compression Algorithm Design

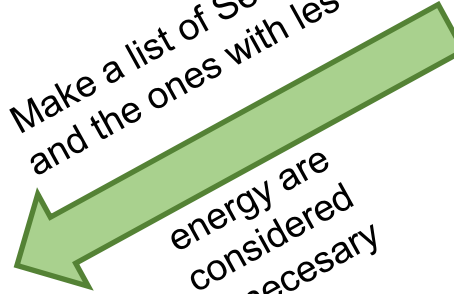


Calculate the
weight/density/energy of each
pixel



4	8	31	5	6	32
1	5	4	8	1	3
2	1	54	6	8	7

Make a list of Seam,
and the ones with less
energy are
considered
unnecessary

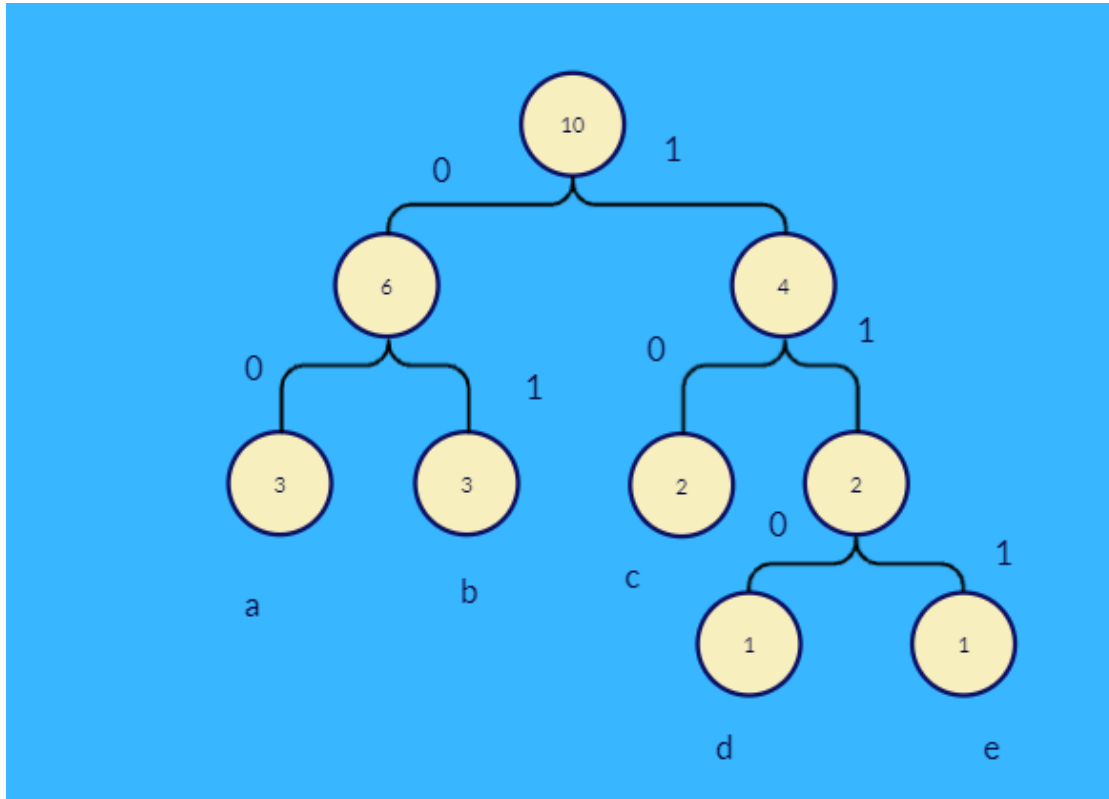


4	8	31	5	6	32
5	9	9	13	6	9
7	6	63	12	14	13

Remove the ones
considered
unnecessary



Compression Algorithm Design



This is the Huffman coding that is going to be the lossless one, were the character's frequency is the tree's frequency.



Compression Algorithm Complexity



	Time Complexity	Memory Complexity
Image Compression	$O(n\log(n))$	$O(n)$
Image Decompression	$O(n\log(n))$	$O(n)$

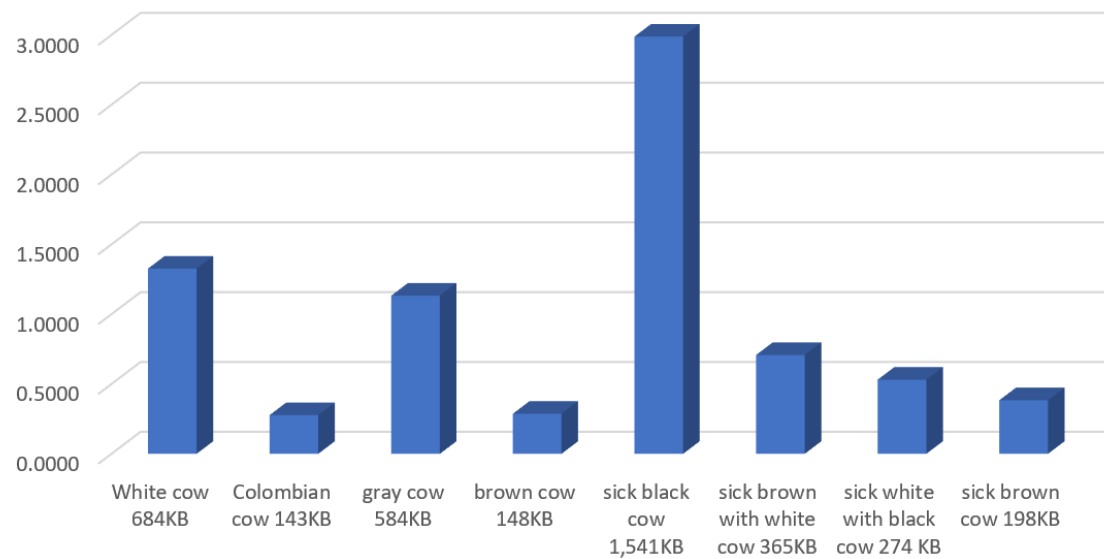
Time and Memory complexity of Huffman



Time and Memory Consumption

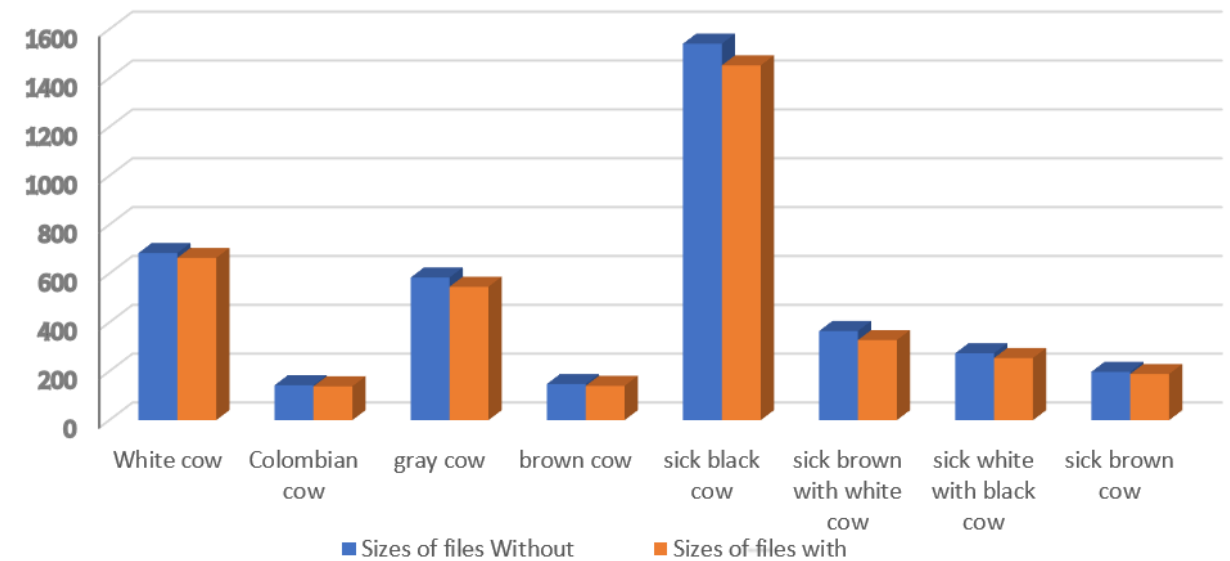


Time consumption (s)



Time Consumption

image size (KB)



Memory Consumption

Average Compression Ratio




	Compression Ratio
Healthy Cattle	31: 625
Sick Cattle	349:5000

Average compression ratio for Healthy Cattle and Sick Cattle.





J. Jácome-Burbano, D. Cuadros-Mariño, and M. Toro. Compression algorithm to reduce cows space consumption. OSF.io, Nov. 2021. Available at: https://osf.io/c45ue/?view_only=0fe0b6b1ccc340f49ce7e8e1d9fb66fe

 OSFHOME

Search

Support

Donate

Sign Up

Sign In

Compression Algorithm to reduce cows...

Files

Wiki

Analytics

Registrations

Due to a spike in spam activities, we have increased our measures to flag spam content on OSF. Contact support@osf.io if you believe your content has been flagged in error.

393.1KB

Public

0


...

Compression Algorithm to reduce cows space consumption

Contributors: [Juan Sebastián Jácome Burbano](#), David Alberto Cuadros Mariño, Mauricio Toro

Date created: 2021-11-18 12:31 PM | Last Updated: 2021-11-18 01:54 PM

Identifier: DOI 10.17605/OSF.IO/C45UE




Category:  Project

Description: The Precision Livestock Farming (PLF) which improves the process of the livestock farming

Files


Filter

i


Name	Modified
 Compression Algorithm to reduce cows space c...	
 OSF Storage (United States)	
 Project data.pdf	2021-11-18 12:50 PM

Citation


Recent Activity

 Juan Sebastián Jácome Burbano renamed ED1-Template-Technical-Report-English-Vr-5.0 Finished.pdf in OSF Storage to [Project data.pdf](#) in OSF Storage in [Compression Algorithm to reduce cows space consumption](#)

2021-11-18 01:54 PM

 Juan Sebastián Jácome Burbano edited description of [Compression Algorithm to reduce cows space consumption](#)

2021-11-18 12:56 PM

 Juan Sebastián Jácome Burbano added Mauricio Toro as contributor(s) to



THANK YOU!