



University of Maribor



Faculty of Electrical Engineering
and Computer Science

3D chain code

Blaž Repnik

GeMMA Lab

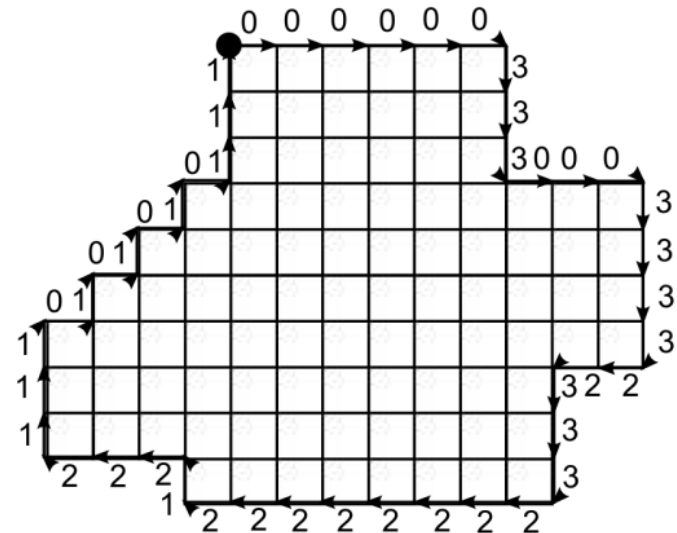
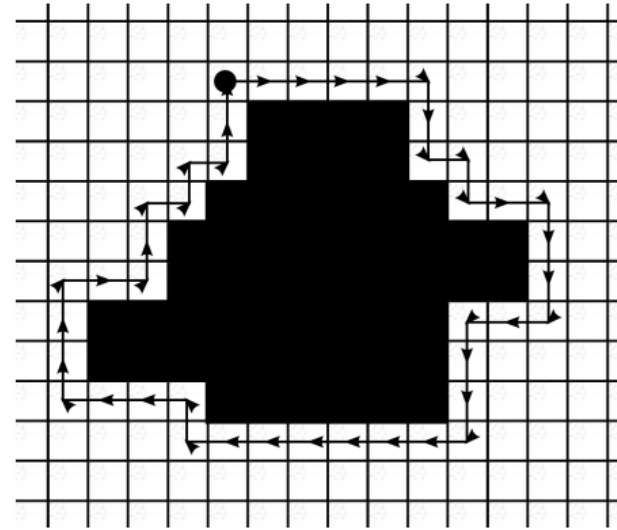
Laboratory for Geospatial Modeling, Multimedia and Artificial intelligence

UM - FERI

15.03.2024

Chain code

- A chain code is a lossless compression based image segmentation method for binary images based upon tracing image contours.

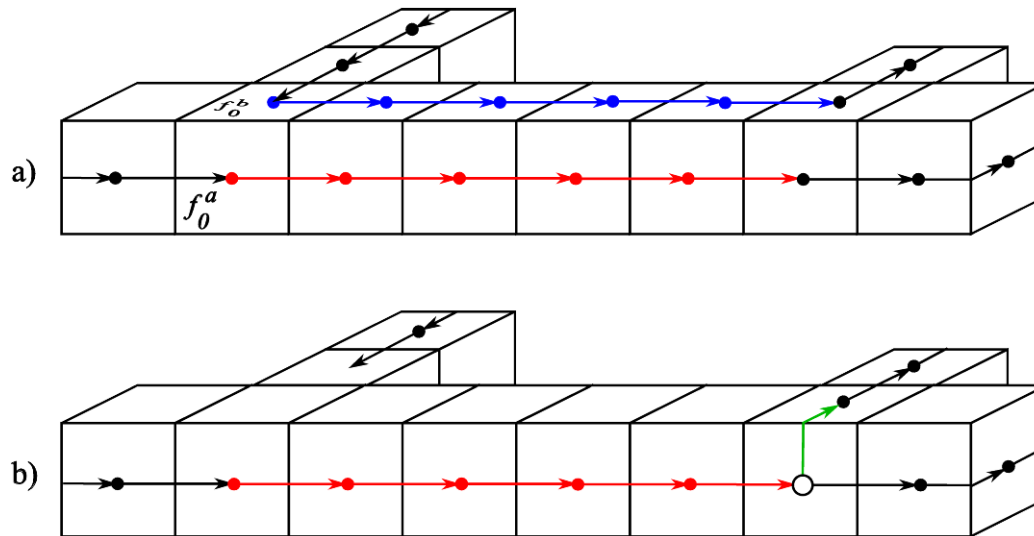




Interactive demonstration...



Additional branching





Results

model	chains count before prune	chains count after prune	chains length before prune	chains length after prune	verts	faces	dataset	chain length by Lemus
Armadillo	2068	748 (36%)	22832	17159 (75%)	18675	18698 (91%)	76x89x69	18698 (91%)
Bison	3220	1018 (32%)	40184	30867 (76%)	33717	33746 (91%)	56x84x143	33746 (91%)
Bunny	2112	606 (29%)	26156	19951 (76%)	21931	21934 (90%)	84x83x66	21934 (90%)
Cavity	282	82 (29%)	11396	10527 (92%)	10840	10836 (97%)	39x39x39	10836 (97%)
Dragon	4927	1626 (33%)	53540	40191 (74%)	43653	43688 (91%)	133x95x62	43688 (91%)
Edge	11	11 (100%)	12308	12277 (99%)	12259	12288 (99%)	130x130x130	12288 (99%)
Gear	726	449 (62%)	24946	22327 (89%)	23496	23496 (94%)	94x94x24	23496 (94%)
Horse	2203	666 (30%)	28372	21642 (76%)	23969	23968 (89%)	60x106x126	23968 (89%)
Multi	757	327 (43%)	19190	17121 (89%)	17689	17684 (96%)	122x121x88	17684 (96%)
Tree	9671	4533 (47%)	103944	74850 (72%)	84373	84966 (88%)	196x259x189	84966 (88%)
Venus	6156	1760 (29%)	78736	61176 (77%)	66389	66426 (91%)	71x259x76	66426 (91%)

