

Pentru rularea proiectului se poate folosi binarul aflat in directorul 'bin'
Pentru compilare este nevoie de un sistem de fisiere local in formatul:
\${GOPATH}/src/computer_vision/project2

>\$ go run main.go

Va afisa mesajele cobra cu toate subcomenzile disponibile si flag-urile corespunzatoare

Comenzile disponibile sunt:

- 'enlarge'

>\$ go run main.go enlarge data/img8.jpg 2

Va prelua o textura aflata la path-ul args[0] si va crea o noua imagine cu dimensiunea args[1]*width(args[0]) X args[1]*length(args[0])

- 'add_texture'

>\$ go run main.go add_texture data/lion.jpg data/solar.jpeg

Va adauga textura aflaga la args[1] imaginii de la args[0]

Flag-urile disponibile sunt:

- -a / --algorithm
 - 0 -> random blocks fara nicio restrictie
 - 1 -> se cauta un block care sa aiba eroare cel mult 1.1 * eroarea minima posibila de suprapunere cu vecinii sai de sus si din stanga
 - 2 -> exact ca la punctul 1. doar ca se adauga si o calculare a frontierei de eroare minima la suprapunere
 - Default este 2.
- --alpha-texture
 - Este un float reprezentant pentru acel 'alpha' din paper la inserarea de texturi
 - Default este 0.8
- --distance-border
 - Este un intreg ce reprezinta care este distanta minima fata de marginile imaginii de la care se pot considera blocurile random ce vor urma sa fie utilizate
 - Default este 0
- --len-block-square
 - Este un intreg ce reprezinta lungimea patratului - block random in pixeli
 - Default 36
- --len-overlap-blocks
 - Este un intreg ce reprezinta lungimea de suprapunere dintre 2 blocuri consecutive in pixeli.
 - Este obligatoriu sa fie mai mica decat -len-block-square
 - Default 6
- --no-blocks
 - Numarul de blocuri random ce vor fi extrase
 - Default 5000
- -o / --output

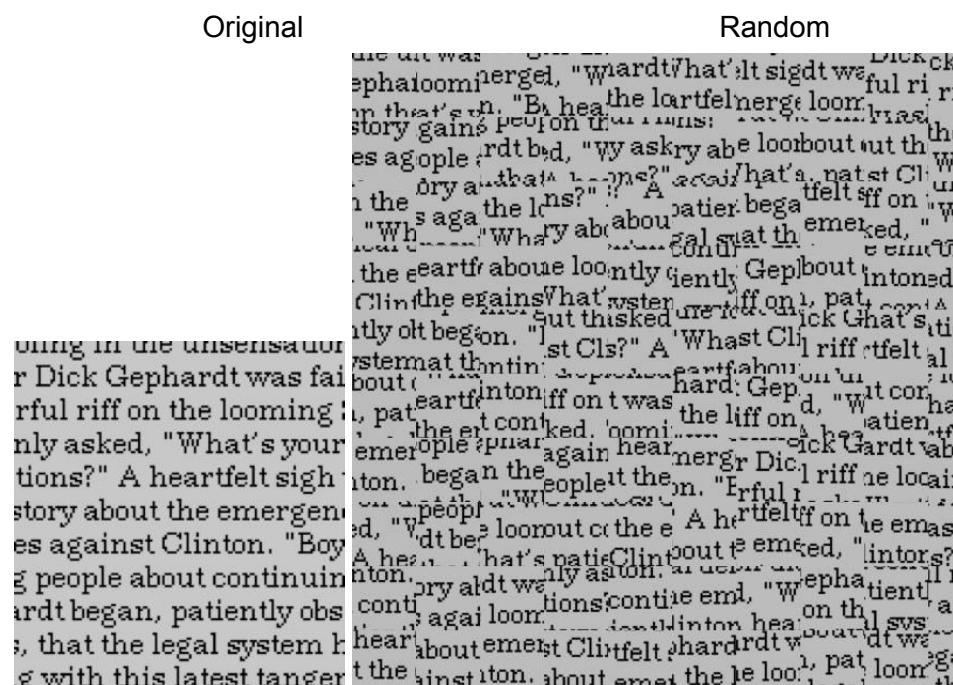
- Numele fisierului de output
 - Default "result.jpeg"
- -s / --steps int
 - Numarul de pasi de procesare a transmiterii texturii
 - Default 1
 - Daca este >1, fiecare pas va primi ca imagine de unde sa preia blocurile random imaginea rezultata la pasul precedent

```
>$ bin/project3 enlarge data/img8.jpg 2 --len-block-square=80 --len-overlap-blocks=20
```

```
>$ bin/project3 enlarge data/img8.jpg 2 --len-block-square=80 --len-overlap-blocks=20 -a=0
-o modified/random_scris.jpeg
```

```
>$ bin/project3 enlarge data/img8.jpg 2 --len-block-square=80 --len-overlap-blocks=20 -a=1
-o modified/minimizare_scris.jpeg
```

```
>$ bin/project3 enlarge data/img8.jpg 2 --len-block-square=80 --len-overlap-blocks=20 -o
modifiedfrontiera_scris.jpeg
```



Minimizare eroare

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Minimizare cu frontiera

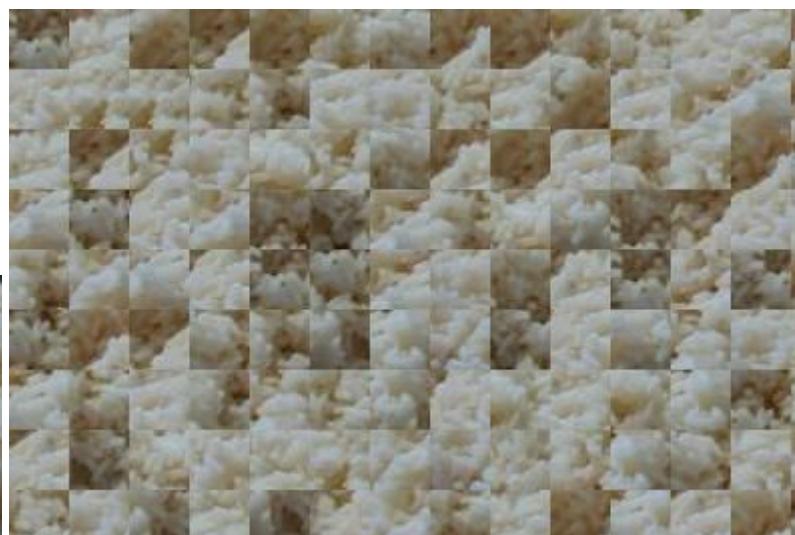
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>$ bin/project3 enlarge data/rice.jpg 2 -a=0 -o modified/random_rice.jpeg  
>$ bin/project3 enlarge data/rice.jpg 2 -a=1 -o modified/minimize_rice.jpeg  
>$ bin/project3 enlarge data/rice.jpg 2 -o modified/frontier_rice.jpeg
```

Original



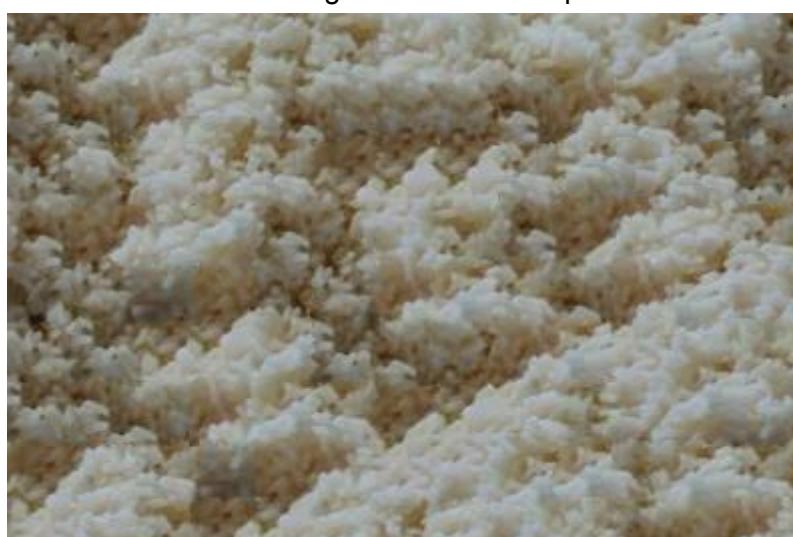
Random



Minimizare eroare



Minimizare eroare cu alegere de frontiera optima



Original



Random



Doar minimizare de eroare



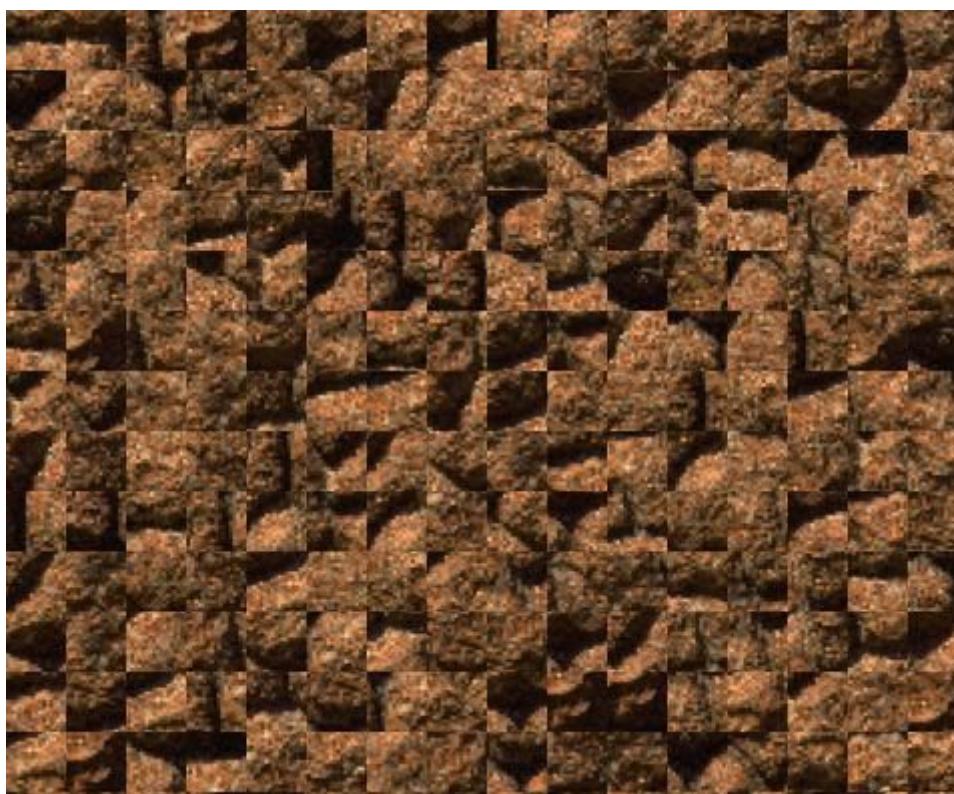
Minimizare eroare si calculare frontiera



Original



Random



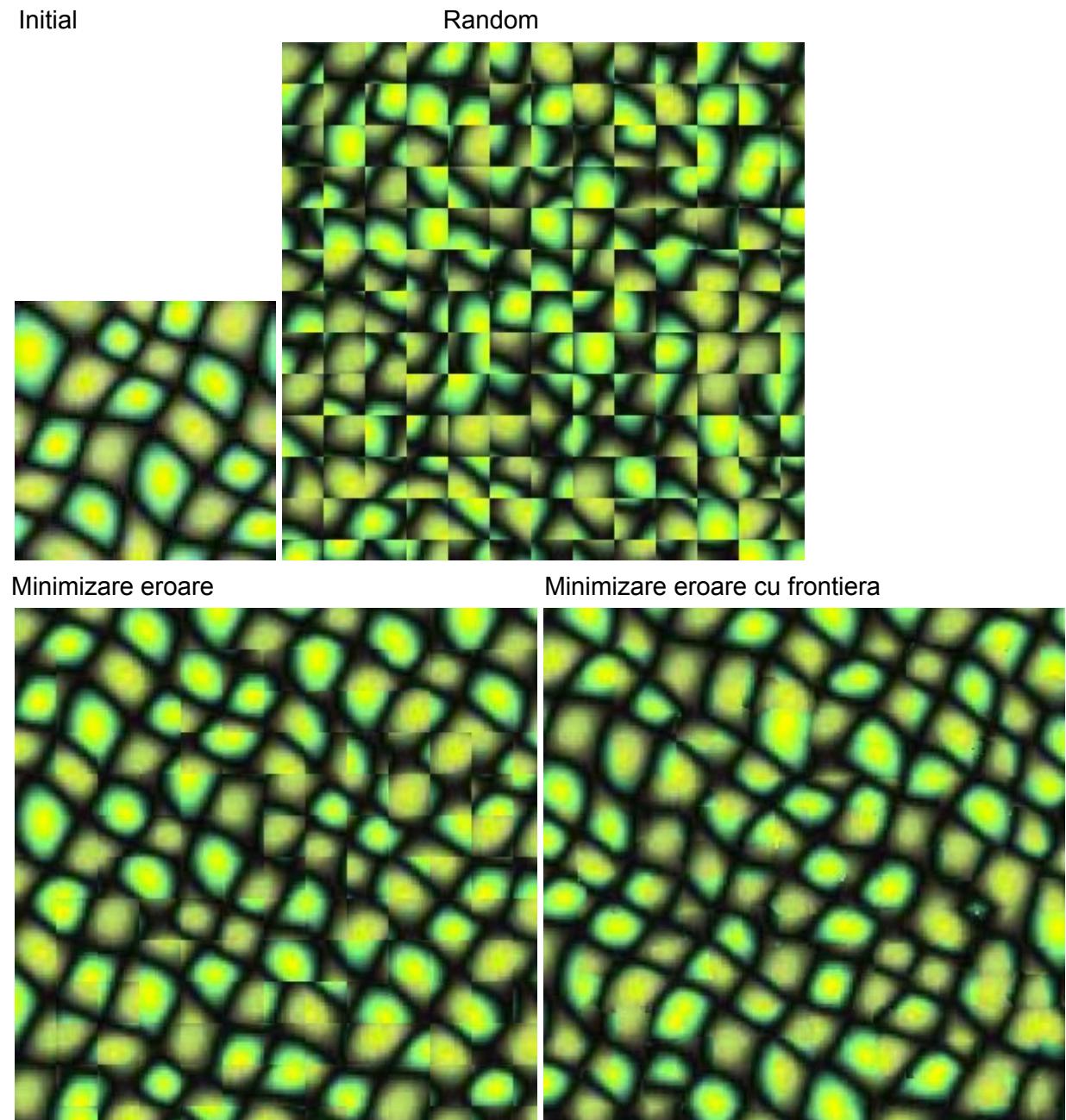
Minimizare eroare



Minimizare eroare + calculare frontiera



```
>$ go run main.go enlarge data/img5.jpg 2 -a=2 -o modified/frontiera_celule.jpeg  
--len-block-square=25 --no-blocks=100000  
>$ go run main.go enlarge data/img5.jpg 2 -a=1 -o modified/minimizare_celule.jpeg  
--len-block-square=25 --no-blocks=100000  
>$ go run main.go enlarge data/img5.jpg 2 -a=0 -o modified/random_celule.jpeg  
--len-block-square=25 --no-blocks=100000
```







Considerand ca imaginea cu Eminescu se afla la path-ul 'data/eminescu.jpg' si poza cu orezul la 'data/rice.jpg'

Comanda:

```
>$ bin/project3 add_texture data/eminescu.jpg data/rice.jpg -s=6
```

Va crea 6 imagini noi.

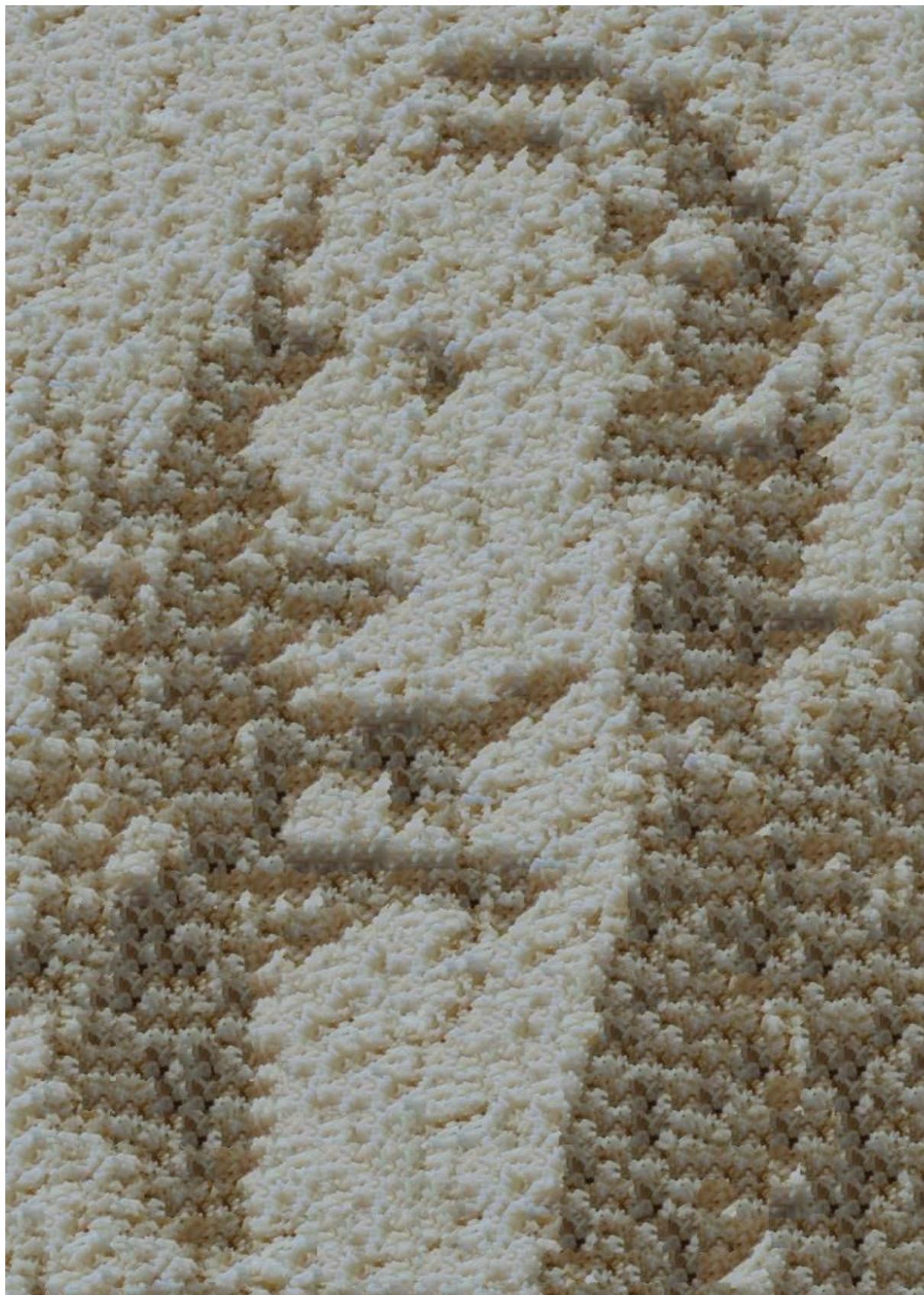
Prima imagine ('result0.jpeg') va fi formata din blocuri random preluate din 'rice.jpg' introduse in imaginea de referinta 'eminescu.jpg'

A doua imagine ('result1.jpeg') va fi formata din blocuri random din 'result0.jpeg' introduse in imaginea de referinta 'eminescu.jpg'

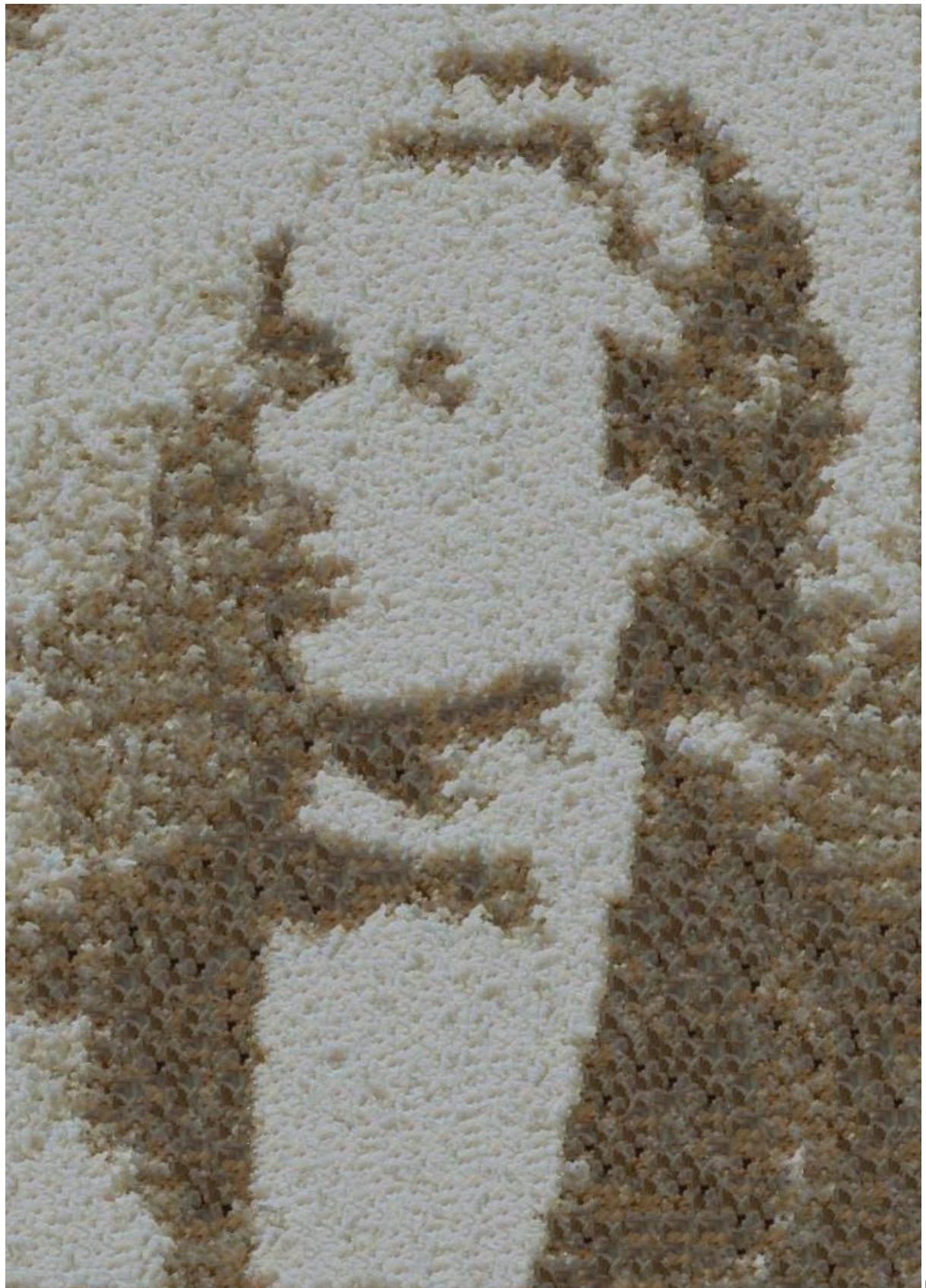
-- Toate imaginile de dupa vor folosi blocuri random din imaginea precedent generata.

Coefficientul alpha este cel implicit de 0.8 pentru toate imaginile.

result0.jpeg



result1.jpeg



res

result2.jpeg

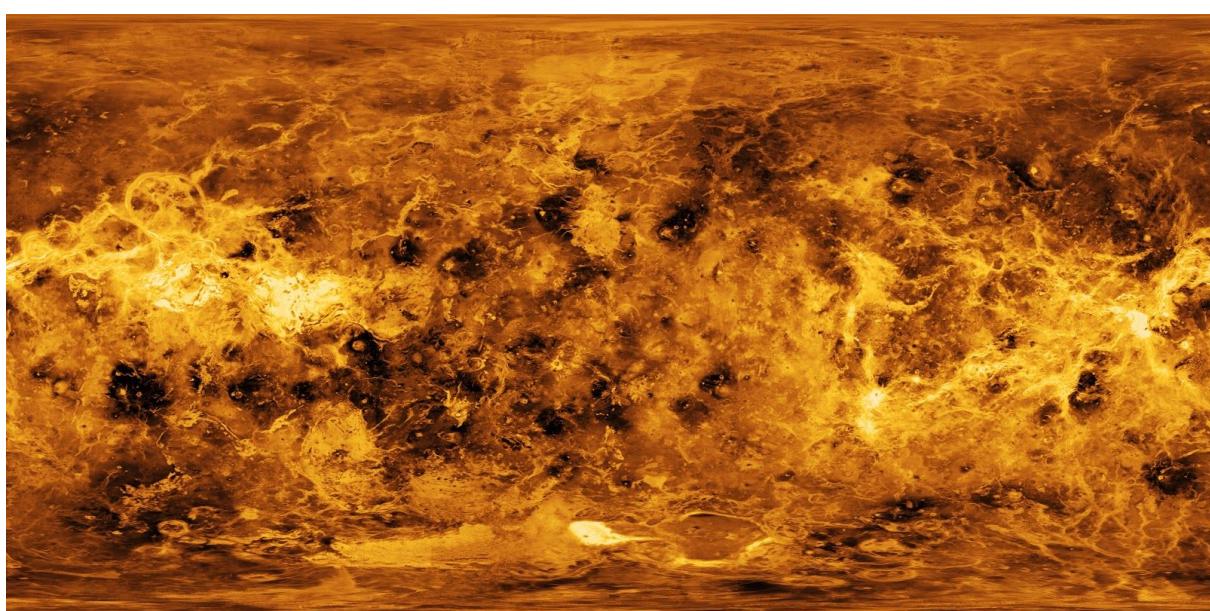


result3.jpeg



result4.jpeg





result0.jpeg



result1.jpeg



result2.jpeg

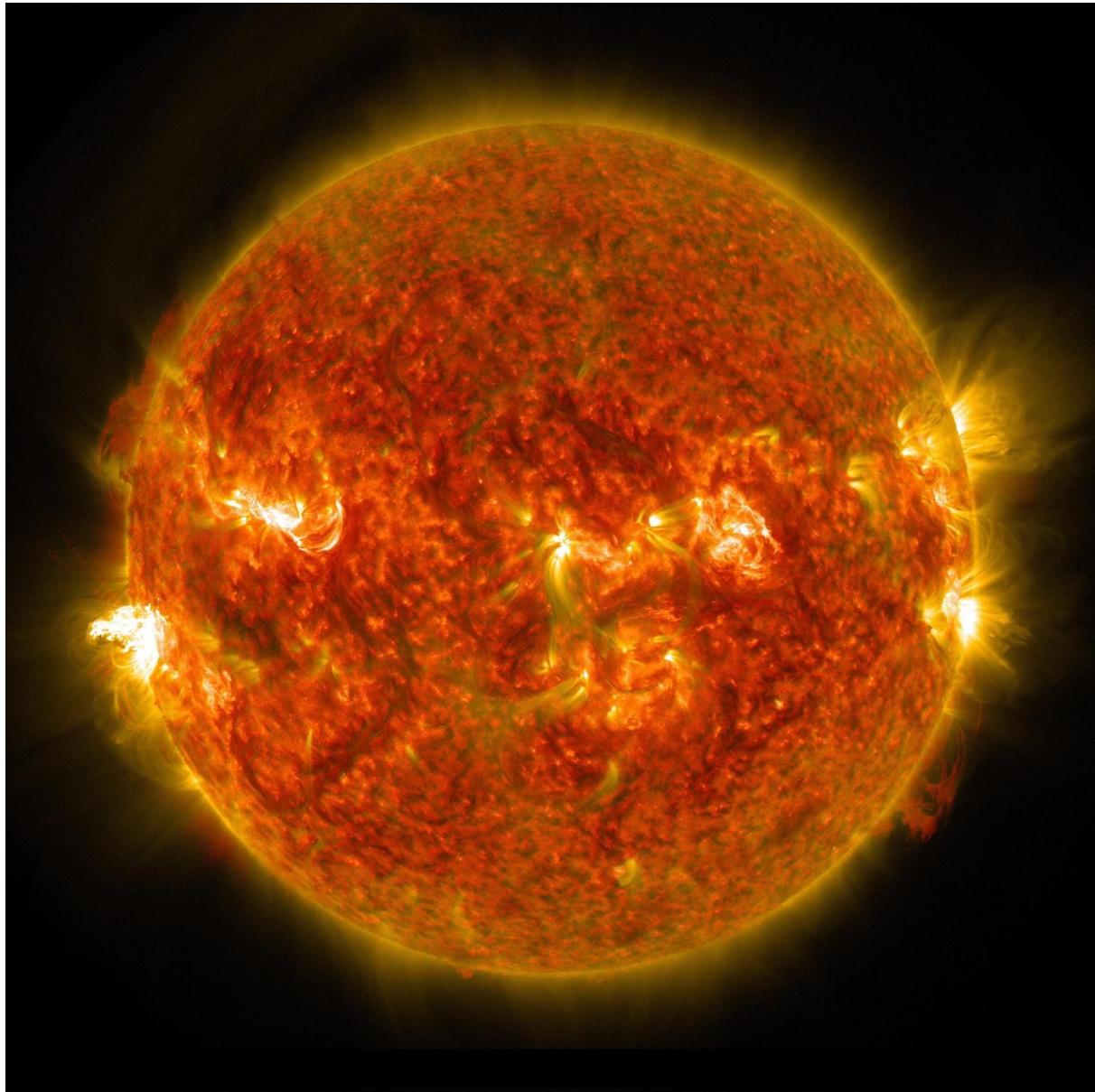


result3.jpeg



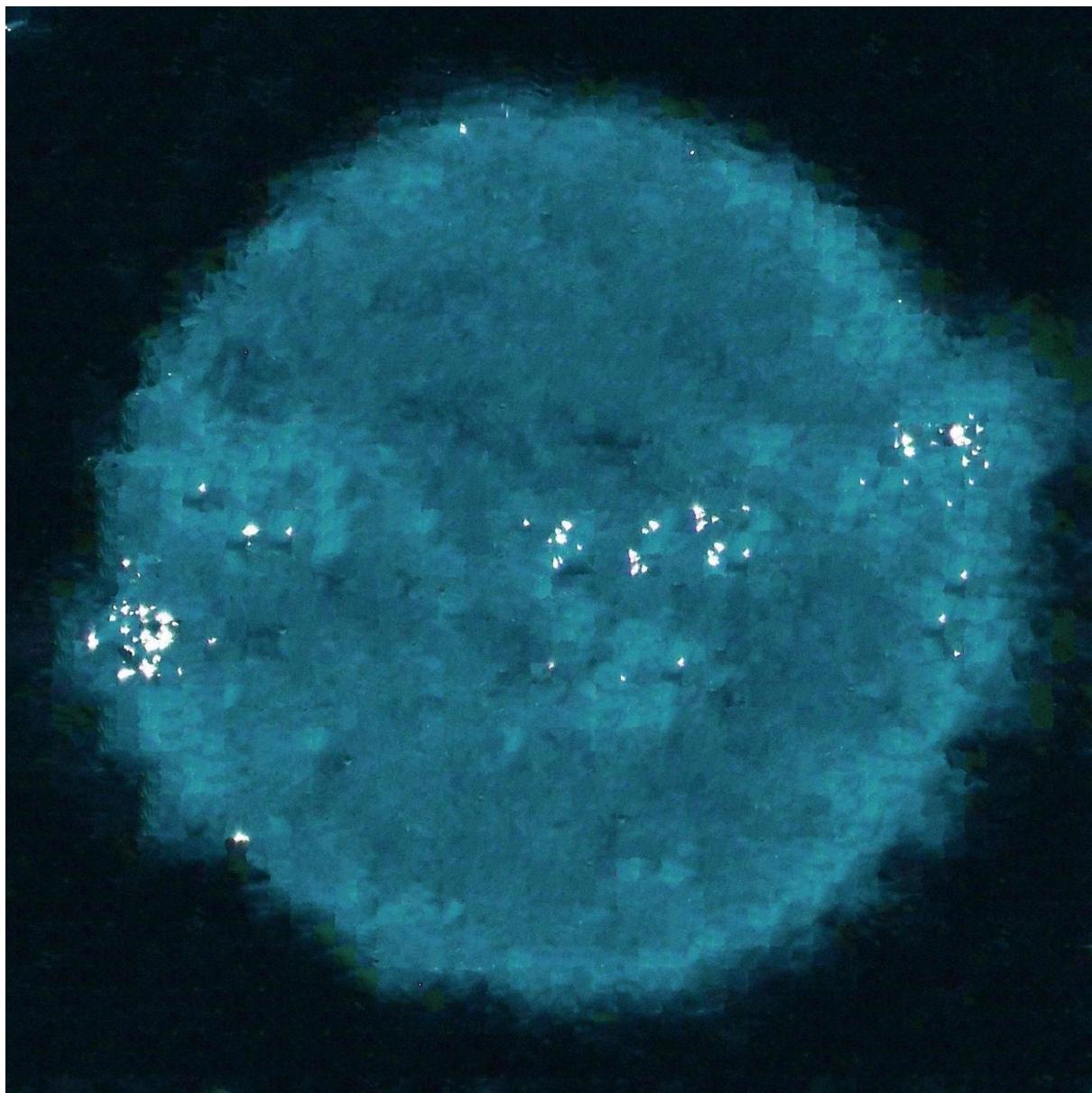
result4.jpeg



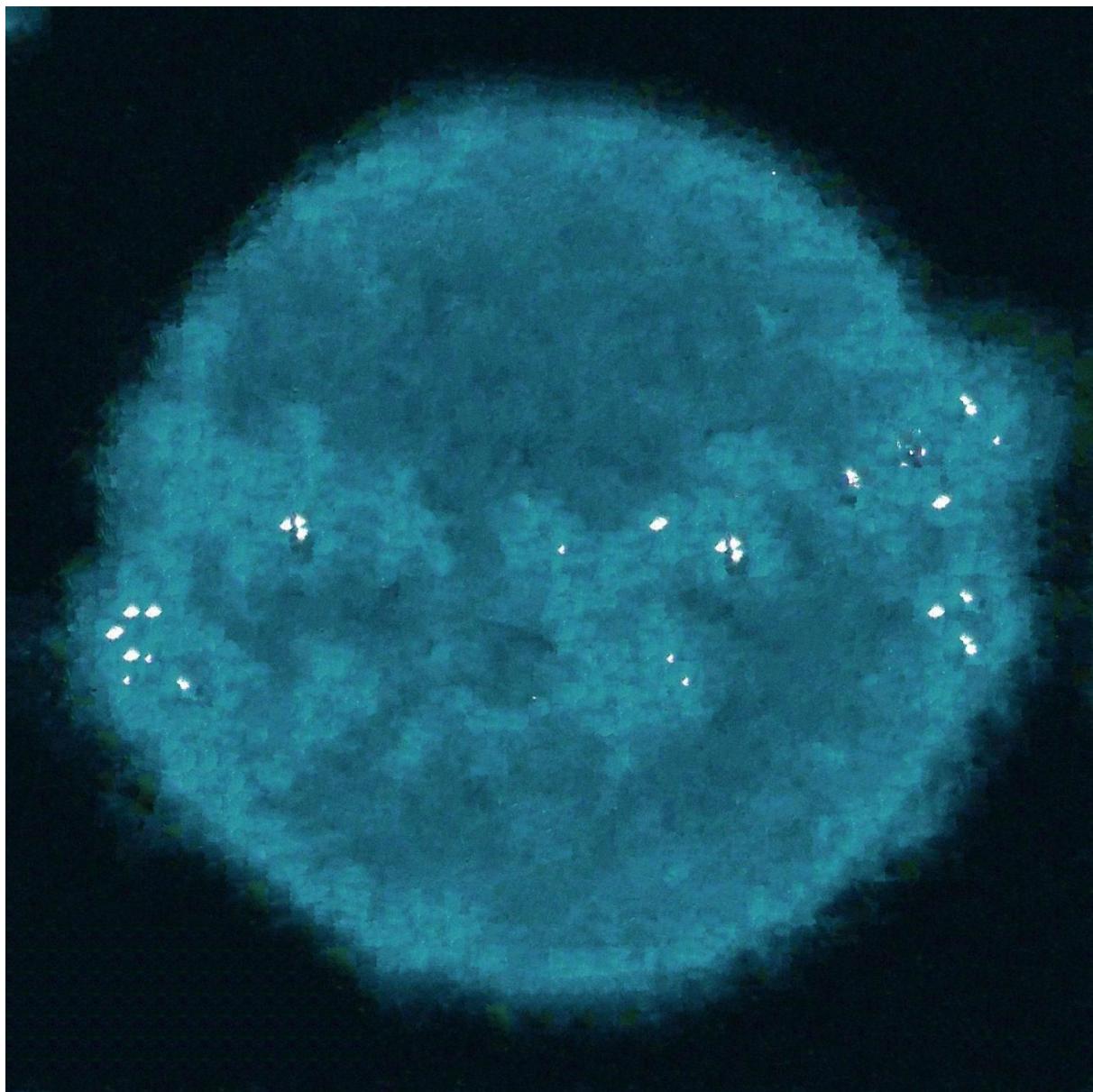




result0.jpeg



result1.jpeg



result2.jpeg

