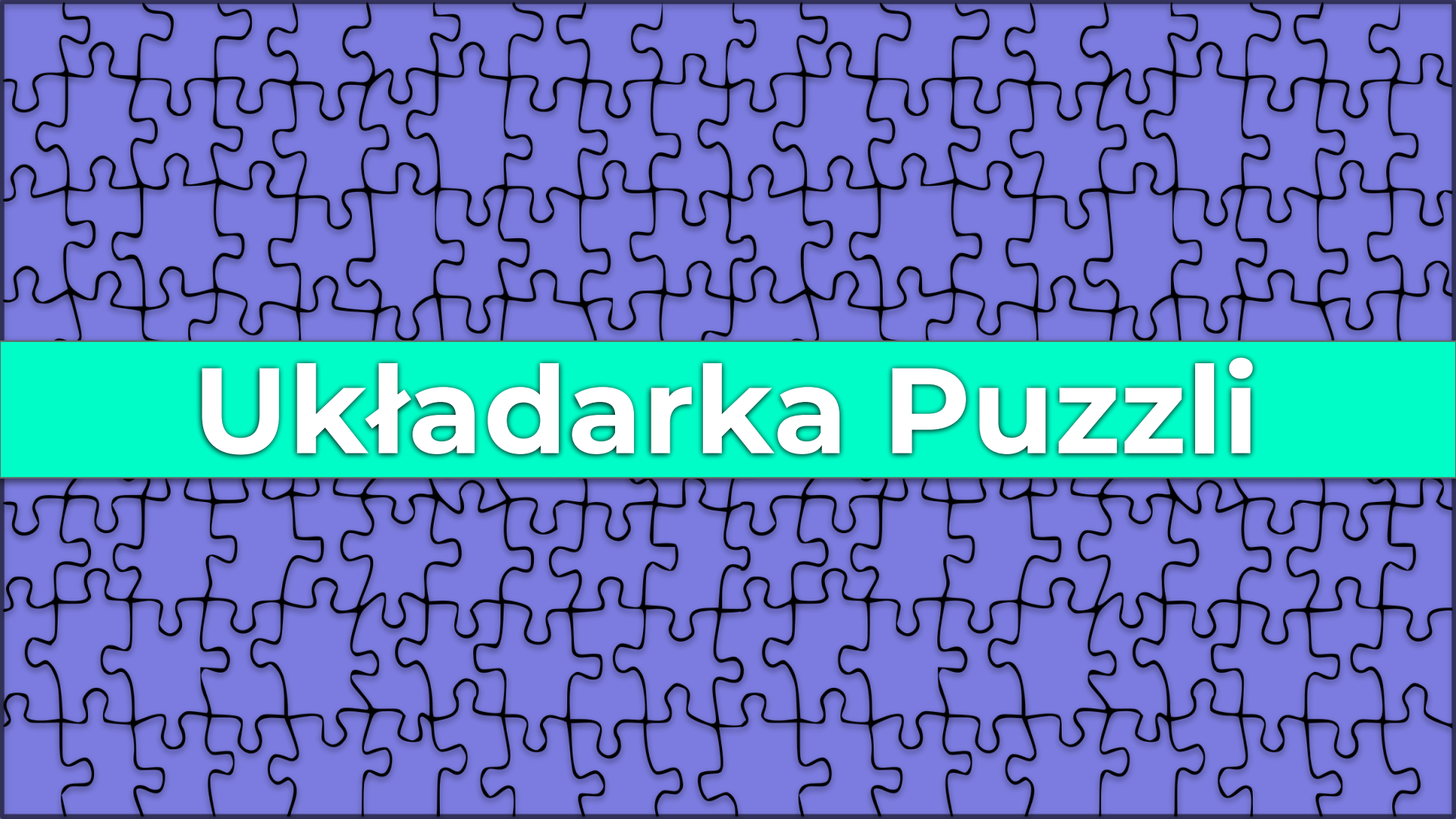
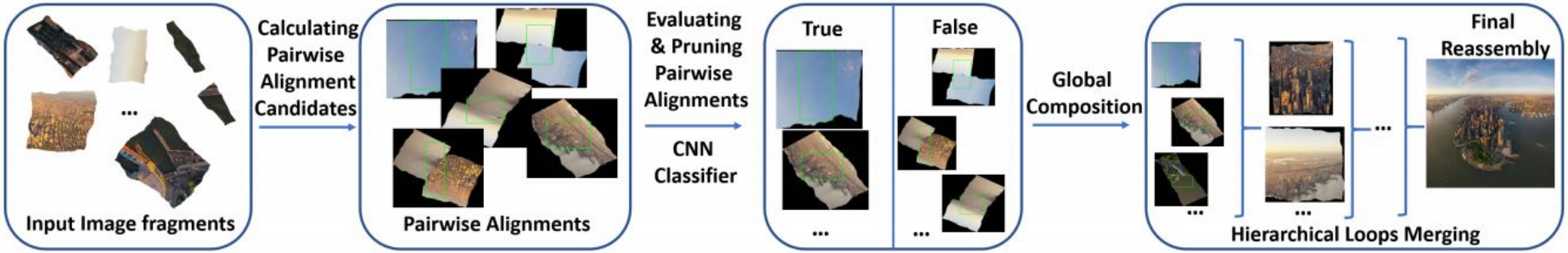
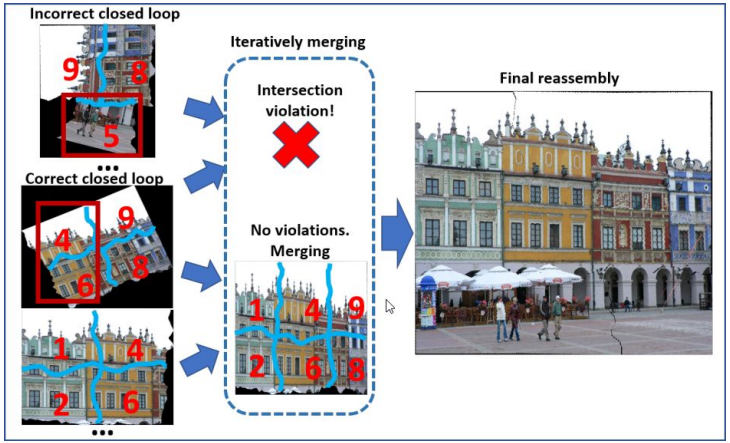
PODSTAWY TELEINFORMATYKI

Paweł Przybyłowski
Bartosz Ptak
Mikołaj Walkowiak

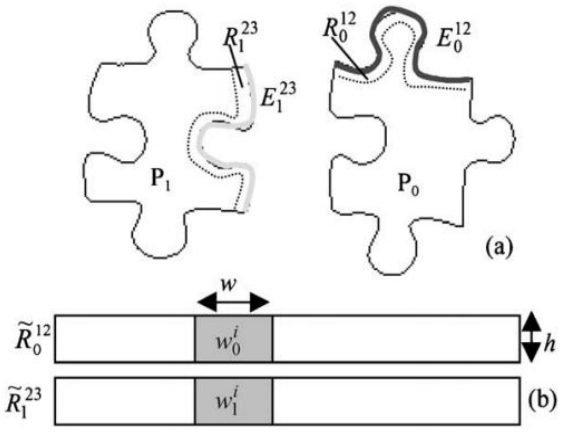

Układarka Puzzli

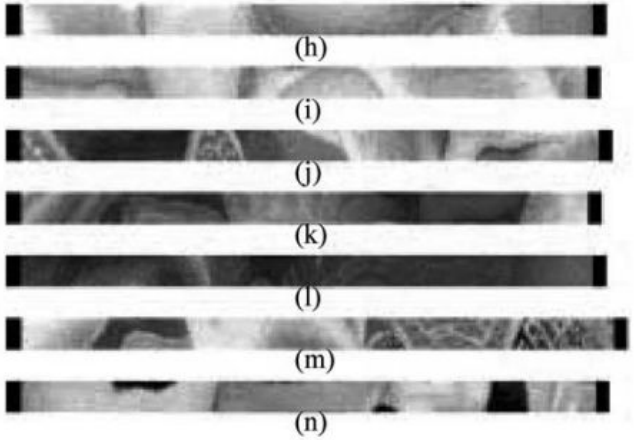
“JigsawNet: Shredded Image Reassembly using Convolutional Neural Network and Loop-based Composition” Canyu Le1 and Xin Li

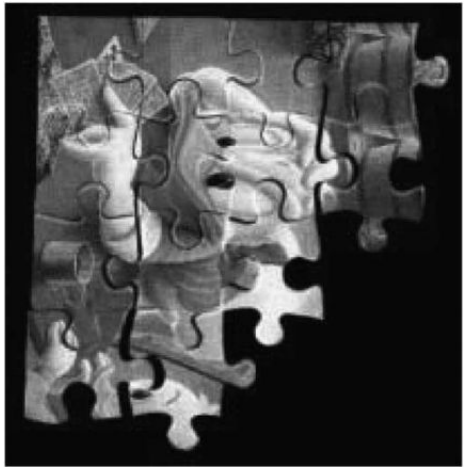




“A shape and image merging technique to solve jigsaw puzzles”
Feng-Hui Yao and Gui-Feng Shao



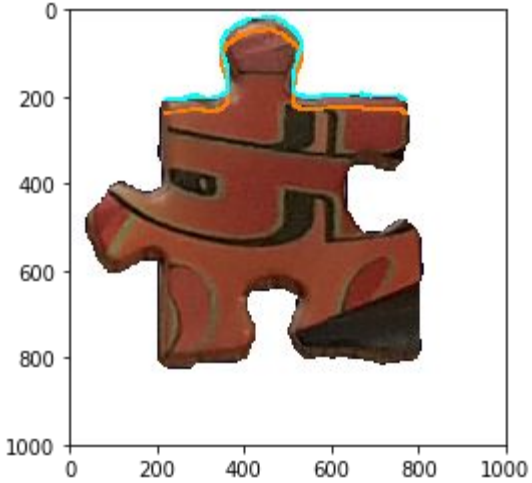


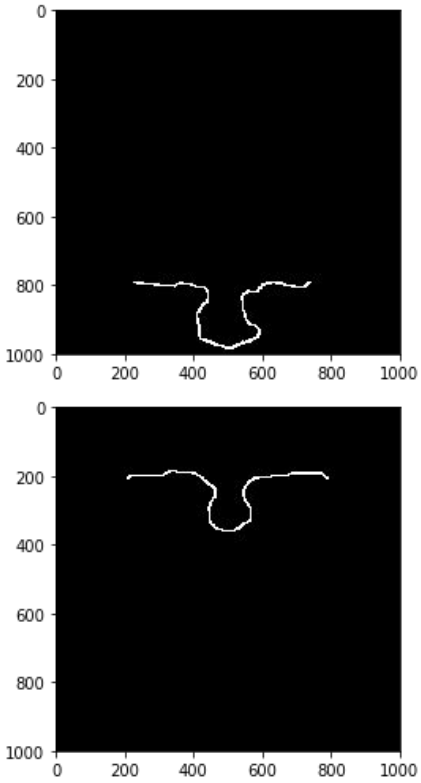


“A shape and image merging technique to solve jigsaw puzzles”
Feng-Hui Yao and Gui-Feng Shao

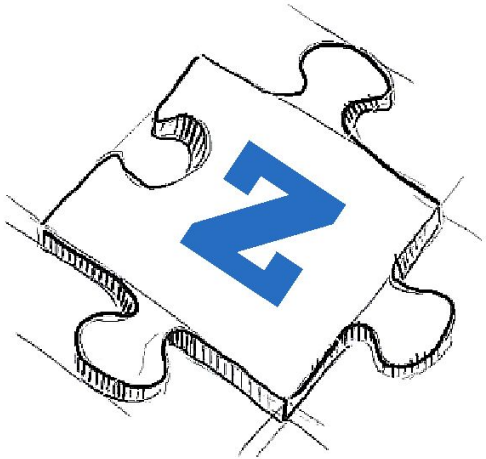
	Piece type	Boundary description	Edge 0	Edge 1	Edge 2	Edge 3
R	 R_0	*CCLL*	***E***.*V*	***E***.*V*	None	None
	 R_1	*VCLL*	***E***.*C*	***E***.*V*	None	None
	 R_2	*CVLL*	***E***.*V*	***E***.*C*	None	None
	 R_3	*VVLL*	***E***.*C*	***E***.*C*	None	None
E	 E_0	*CCCL*	***E***.*V*, ***R***.*V*	***I***.*V*	***E***.*V*, ***R***.*V*	None
	 E_1	*CVCL*	***E***.*V*, ***R***.*V*	***I***.*C*	***E***.*V*, ***R***.*V*	None
	 E_2	*VCCL*	***E***.*C*, ***R***.*C*	***I***.*V*	***E***.*V*, ***R***.*V*	None
	 E_3	*CCVL*	***E***.*V*, ***R***.*V*	***I***.*V*	***E***.*C*, ***R***.*C*	None
	 E_4	*VVCL*	***E***.*C*, ***R***.*C*	***I***.*C*	***E***.*V*, ***R***.*V*	None
	 E_5	*CVVL*	***E***.*V*, ***R***.*V*	***I***.*C*	***E***.*C*, ***R***.*C*	None
	 E_6	*VCVL*	***E***.*C*, ***R***.*C*	***I***.*V*	***E***.*C*, ***R***.*C*	None
	 E_7	*VVVL*	***E***.*C*, ***R***.*C*	***I***.*C*	***E***.*C*, ***R***.*C*	None
I	 I_0	*CCCC*	***E***.*V*, ***I***.*V*	***E***.*V*, ***I***.*V*	***E***.*V*, ***I***.*V*	***E***.*V*, ***I***.*V*
	 I_1	*VCCC*	***E***.*C*, ***I***.*C*	***E***.*V*, ***I***.*V*	***E***.*V*, ***I***.*V*	***E***.*V*, ***I***.*V*
	 I_2	*VCVC*	***E***.*C*, ***I***.*C*	***E***.*V*, ***I***.*V*	***E***.*C*, ***I***.*C*	***E***.*V*, ***I***.*V*
	 I_3	*CVVC*	***E***.*V*, ***I***.*V*	***E***.*C*, ***I***.*C*	***E***.*C*, ***I***.*C*	***E***.*V*, ***I***.*V*
	 I_4	*VVVC*	***E***.*C*, ***I***.*C*	***E***.*C*, ***I***.*C*	***E***.*C*, ***I***.*C*	***E***.*V*, ***I***.*V*
	 I_5	*VVVV*	***E***.*C*, ***I***.*C*	***E***.*C*, ***I***.*C*	***E***.*C*, ***I***.*C*	***E***.*C*, ***I***.*C*

Działanie na krawędziach (cv2.matchShapes) i kolorach



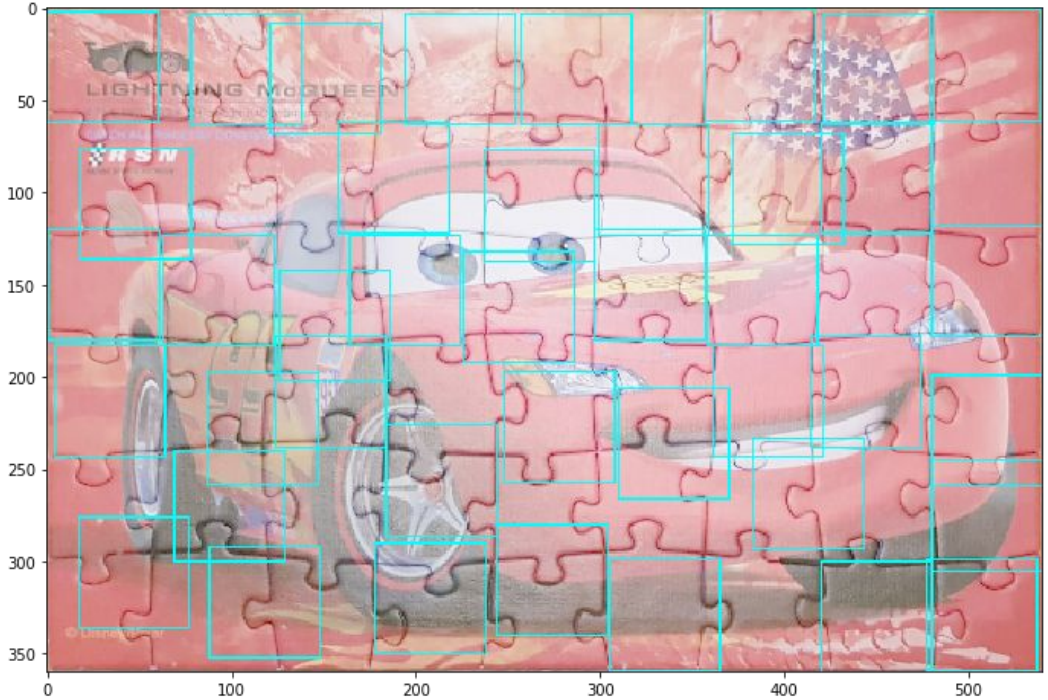


Zolver (C. Cetre, D. Castéran, J. Lugand, H. Rybinski)



Zolver

Funkcja matchTemplate z biblioteki OpenCV



Błąd: 0.444 (poprawnych/wszystkich)

Jak próbowaliśmy usprawnić?

1. Testowanie różnych metod dopasowywania.
2. Zamiana na skalę szarości, HLS, HSV.
3. Wyrównanie histogramów kolorów.
4. Zmiana rozdzielczości obrazków.
5. Adaptacyjny rozmiar wzoru dopasowania.
6. Korekcja Gamma.

GITHUB ⇢ bartoszptak ⇢ puzzlesolver

https://github.com/bartoszptak/PuzzleSolver