Loop-compatible Optimal Simple Graph Extraction: Computation and its Application on Fragmented mage Reassembly

Student: Olivera Dimoska
Mentor: Prof. Xin Shane Li
Graph-based Optimization Method

1. Pairwise matching:

Identify potential adjacent fragments and computer their alignments based on color/texture consistency and geometry of boundary contours.
2. Groupwise matching

Select and extract the correct alignments among fragments by considering all the matches in the graph, enforcing these matches groupwise compatibility.
3. Global refinement

Refine the positioning of fragments and reduce gaps between pieces.
New Algorithm For The Groupwise Matching Step

Example of weighted multigraph from four fragments
Loop-compatible optimal simple graph extracted with the new algorithm from the example multigraph.
THANK YOU