

INF273 Exam Rapport

Instance #1 (Call_7_Vehicle_3)			
	Average Objective	Best Objective	Average Running time (seconds)
Results of your algorithm	1476444	1476444	0.203 seconds

Instance #2 (Call_18_Vehicle_5)			
	Average Objective	Best Objective	Average Running time (seconds)
Results of your algorithm	2464250	2432417	19.5 seconds

Instance #3 (Call_035_Vehicle_07)			
	Average Objective	Best Objective	Average Running time (seconds)
Results of your algorithm	5575721	5483069	49.5 seconds

Instance #4 (Call_080_Vehicle_20)			
	Average Objective	Best Objective	Average Running time (seconds)
Results of your algorithm	13966935	13464825	119.505 seconds

Instance #5 (Call_130_Vehicle_40)			
	Average Objective	Best Objective	Average Running time (seconds)
Results of your algorithm	19614774	19203245	399.501 seconds

Best Solutions

Instance #1 (Call_7_Vehicle_3)

[3, 3, 0, 7, 1, 7, 1, 0, 5, 5, 6, 6, 0, 2, 2, 4, 4]

Instance #2 (Call_18_Vehicle_5)

[4, 14, 4, 14, 3, 3, 0, 15, 15, 6, 17, 17, 6, 0, 16, 11, 16, 10, 11, 9, 10, 9, 0, 12, 12, 1, 1, 0, 18, 5, 5, 18, 8, 7, 7, 8, 2, 2, 0, 13, 13]

Instance #3 (Call_035_Vehicle_07)

[13, 13, 22, 22, 33, 33, 9, 9, 0, 23, 23, 30, 30, 0, 3, 3, 10, 10, 15, 15, 0, 25, 25, 16, 16, 24, 2, 24, 2, 0, 19, 7, 34, 5, 34, 19, 5, 7, 8, 11, 11, 8, 32, 32, 4, 4, 0, 12, 17, 29, 35, 35, 29, 17, 20, 12, 27, 20, 27, 31, 26, 26, 31, 0, 28, 28, 21, 21, 18, 18, 14, 14, 1, 1, 0, 6, 6]

Instance #4 (Call_080_Vehicle_20)

[79, 79, 11, 5, 5, 11, 10, 10, 0, 61, 37, 37, 61, 75, 75, 0, 4, 4, 54, 28, 28, 54, 17, 17, 0, 47, 47, 22, 22, 42, 42, 78, 78, 0, 34, 34, 24, 13, 13, 24, 0, 80, 80, 51, 51, 0, 36, 27, 27, 31, 36, 31, 0, 59, 67, 67, 59, 70, 70, 73, 73, 0, 55, 57, 55, 29, 29, 57, 43, 43, 0, 50, 50, 68, 68, 39, 39, 19, 18, 18, 19, 0, 53, 53, 60, 12, 12, 60, 9, 9, 58, 58, 0, 74, 74, 30, 30, 71, 1, 71, 1, 0, 49, 49, 65, 2, 65, 2, 0, 26, 72, 26, 72, 45, 8, 8, 45, 0, 46, 7, 7, 46, 0, 3, 3, 15, 35, 35, 15, 0, 33, 33, 63, 63, 44, 21, 21, 44, 0, 77, 77, 64, 38, 64, 38, 0, 32, 14, 32, 23, 14, 40, 40, 23, 41, 25, 41, 25, 0, 62, 62, 16, 16, 56, 56, 6, 76, 6, 76, 0, 20, 20, 48, 48, 52, 52, 66, 66, 69, 69]

Instance #5 (Call_130_Vehicle_40)

[82, 82, 2, 12, 12, 2, 0, 48, 48, 39, 39, 23, 23, 70, 70, 0, 71, 83, 83, 71, 126, 126, 81, 129, 129, 81, 0, 120, 120, 30, 30, 75, 75, 0, 57, 7, 7, 57, 116, 67, 116, 67, 0, 47, 47, 100, 100, 0, 58, 58, 94, 94, 80, 80, 11, 29, 11, 29, 0, 89, 89, 62, 62, 4, 4, 0, 21, 21, 27, 27, 0, 104, 104, 59, 59, 0, 33, 33, 66, 66, 0, 90, 112, 112, 90, 42, 42, 124, 124, 0, 93, 35, 35, 93, 119, 119, 0, 26, 26, 0, 64, 64, 5, 53, 5, 53, 0, 117, 117, 78, 14, 14, 78, 0, 34, 34, 106, 106, 10, 10, 0, 103, 103, 28, 28, 9, 9, 0, 65, 72, 72, 65, 109, 1, 1, 109, 0, 50, 50, 68, 68, 54, 54, 19, 8, 8, 19, 0, 91, 102, 91, 102, 105, 105, 85, 85, 0, 43, 97, 97, 92, 43, 40, 92, 46, 40, 46, 0, 32, 32, 22, 55, 55, 22, 125, 125, 86, 86, 45, 45, 0, 114, 61, 38, 38, 61, 114, 0, 77, 77, 63, 63, 110, 110, 0, 96, 74, 74, 96, 56, 56, 0, 84, 76, 76, 84, 98, 20, 36, 20, 98, 113, 36, 113, 0, 121, 18, 18, 121, 24, 79, 79, 24, 0, 60, 44, 44, 60, 3, 3, 0, 69, 69, 95, 95, 88, 88, 0, 73, 6, 6, 73, 0, 108, 52, 52, 108, 99, 99, 0, 115, 115, 87, 87, 0, 25, 25, 128, 51, 31, 128, 51, 31, 0, 101, 101, 127, 130, 127, 130, 0, 118, 122, 118, 13, 13, 122, 0, 49, 41, 49, 41, 0, 123, 123, 0, 107, 111, 107, 111, 15, 15, 0, 37, 16, 16, 37, 0, 17, 17]

Algorithm

An algorithm based on Simulated Annealing, Tabu, and performance of operators. Operators have three different characteristics to choose from: Early, Late, and Nothing. They dictate how the performance of the operators will behave. Early operators will get more weight *early* in the run, late will do so in the late stages while *nothing* will have no special characteristics. If a new global best solution is found a more intensive neighborhood-like search will be done using an exact approach. The temperature and cooling factor are automatically calculated.