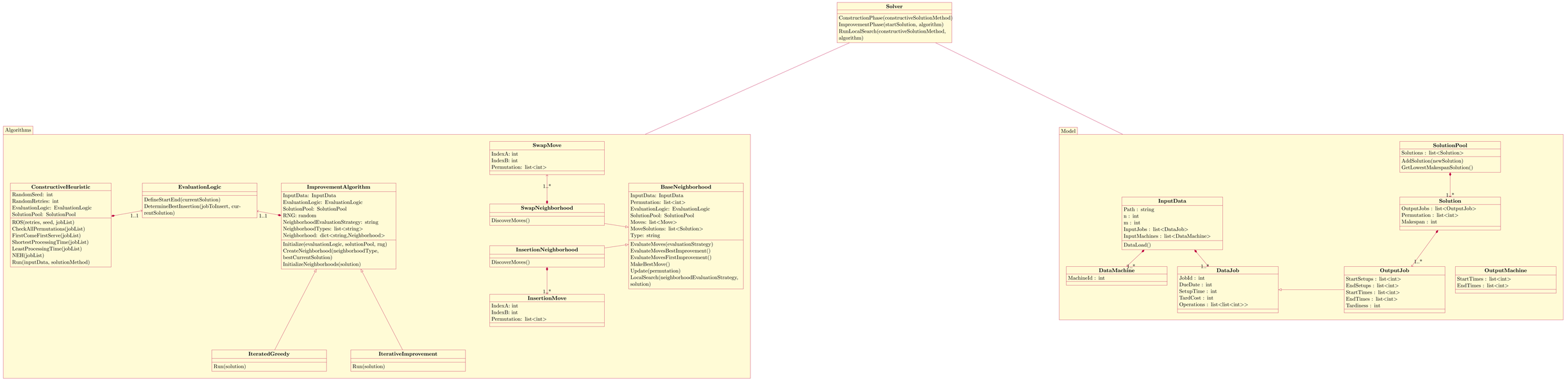
Solver
ConstructionPhase(constructiveSolutionMethod)
ImprovementPhase(startSolution, algorithm)
RunLocalSearch(constructiveSolutionMethod, algorithm)
Algorithms
ConstructiveHeuristic
RandomSeed: int
RandomRetries: int
EvaluationLogic: EvaluationLogic
SolutionPool: SolutionPool
ROS(retries, seed, jobList)
CheckAllPermutations(jobList)
FirstComeFirstServe(jobList)
ShortestProcessingTime(jobList)
LeastProcessingTime(jobList)
NEH(jobList)
Run(inputData, solutionMethod)
1..1
EvaluationLogic
DefineStartEnd(currentSolution)
DetermineBestInsertion(jobToInsert, currentSolution)
1..1
ImprovementAlgorithm
InputData: InputData
EvaluationLogic: EvaluationLogic
SolutionPool: SolutionPool
RNG: random
NeighborhoodEvaluationStrategy: string
NeighborhoodTypes: list<string>
Neighborhood: dict<string,Neighborhood>
Initialize(evaluationLogic, solutionPool, rng)
CreateNeighborhood(neighborhoodType, bestCurrentSolution)
InitializeNeighborhoods(solution)
IteratedGreedy
Run(solution)
IterativeImprovement
Run(solution)
SwapMove
IndexA: int
IndexB: int
Permutation: list<int>
1..*
SwapNeighborhood
DiscoverMoves()
InsertionNeighborhood
DiscoverMoves()
1..*
InsertionMove
IndexA: int
IndexB: int
Permutation: list<int>
BaseNeighborhood
InputData: InputData
Permutation: list<int>
EvaluationLogic: EvaluationLogic
SolutionPool: SolutionPool
Moves: list<Move>
MoveSolutions: list<Solution>
Type: string
EvaluateMoves(evaluationStrategy)
EvaluateMovesBestImprovement()
EvaluateMovesFirstImprovement()
MakeBestMove()
Update(permutation)
LocalSearch(neighborhoodEvaluationStrategy, solution)
Model
InputData
Path : string
n : int
m : int
InputJobs : list<DataJob>
InputMachines : list<DataMachine>
DataLoad()
1..*
1..*
DataMachine
MachineId : int
DataJob
JobId : int
DueDate : int
SetupTime : int
TardCost : int
Operations : list<list<int>>
SolutionPool
Solutions : list<Solution>
AddSolution(newSolution)
GetLowestMakespanSolution()
1..*
Solution
OutputJobs : list<OutputJob>
Permutation : list<int>
Makespan : int
1..*
OutputJob
StartSetups : list<int>
EndSetups : list<int>
StartTimes : list<int>
EndTimes : list<int>
Tardiness : int
OutputMachine
StartTimes : list<int>
EndTimes : list<int>