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== Radatools 5.2 ==  
== from ==  
== radalib-20210720-181118 ==  
==  
== Copyright (c) 2021 by ==  
==  
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==  
== 20/07/2021 ==  
==  
== See LICENSE.txt ==  
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radatools 5.2  
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- minor updates and bug fixes

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radatools 5.1  
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- added `Weighted_Bipartite_Path_Motif` and `Weighted_Bipartite_Path_Signed` modularities

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radatools 5.0  
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- `Communities_Detection` and `Mesoscales_Detection`:
 - extremely improved performance of all heuristics
 - new heuristics: louvain algorithm
 - added initialization modes to heuristics: best, previous, default, together, isolated
 - spectral optimization now deals with directed networks
 - reposition heuristics now available not just for fine-tuning, similar to louvain
 - improved interplay between original self-loops of the network and resolution
- `Mesoscales_Detection`:
 - improved automatic detection of minimum resolution for weighted signed modularity
- `Hierarchical_Clustering`:
 - added `Versatile_Linkage`, `Geometric_Linkage`, `Harmonic_Linkage` and `Beta_Flexible`
 - `Versatile_Linkage` and `Beta_Flexible` depend on a parameter
 - weighted or unweighted is selected separately from the clustering method
 - `Arithmetic_Linkage` replaces `Unweighted_Average` and `Weighted_Average`
 - `Centroid` replaces `Unweighted_Centroid` and `Weighted_Centroid`
- `Data_Statistics`:
 - added Kendall tau correlation
- `Network_Properties`:
 - performance improved
- `README`:
 - many improvements, including indications for the selection of heuristics
- many minor updates and bug fixes

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radatools 4.1  
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- `Communities_Detection`: improved performance of extremal optimization

radatools 4.0

- source code available, see Radalib
- added program for agglomerative hierarchical clustering: Hierarchical_Clustering
- added program to calculate proximity matrices: Data_To_Proximities
- added program to calculate correlation matrices: Data_To_Correlations
- added program to calculate the network of communities: Communities_Network
- added program to obtain some information of each link: Links_Info
- added program to aggregate a multiplex network: Multiplex_Aggregate
- added program to extract the layers of a multiplex network: Multiplex_Extract_Layers
- added program to symmetrize a directed network: Symmetrize_Network
- added program to sort the nodes of a network: Sort_Nodes
- added conversion programs: Matrix_To_List, Net_To_List
- added program to calculate elementary data statistics: Data_Statistics
- Mesoscales_Search renamed to Mesoscales_Detection
- Network_Properties: faster implementation of edge betweenness
- expanded functionality of:
 - Communities_Detection
 - Compare_Partitions
 - Connected_Subgraphs
 - Mesoscales_Detection
 - Modularity_Calculation
 - Network_Properties
- minor updates

radatools 3.2

- added program to calculate the modularity: Modularity_Calculation
- expanded functionality of Network_Properties
- minor updates

radatools 3.1

- added program to extract a subgraph from a network: Extract_Subgraphs

radatools 3.0

- available also for MacOS X
- new modularity type: Weighted_Link_Rank
- communities detection:
 - new implementation of the fast algorithm
- mesoscales search updated:
 - extended to all modularity types, for self-loops in given range
 - automatic determination of self-loops range for Weighted_Signed and Weighted_Newman
- connected components:
 - now available the calculation of both weak and strong connected components
- new programs:
 - Size_Reduction, Size_Reduction_Lol_Expand, Convert_Clu_To_Lol, Network_Properties, Compare_Partitions, Spanning_Tree, Net_To_Matrix
- list of available programs:
 - 01-Prepare_Network : List_To_Net, Matrix_To_Net, Connected_Subgraphs, Size_Reduction
 - 02-Find_Communities: Communities_Detection, Mesoscales_Search, Mesoscales_Fine_Tuning
 - 03-Reformat_Results: Size_Reduction_Lol_Expand, Convert_Lol_To_Clu, Convert_Clu_To_Lol, Reformat_Partitions
 - 04-Other_Tools : Network_Properties, Compare_Partitions, Spanning_Tree, Net_To_Matrix

radatools 2.1

- minor updates

radatools 2.0

- added programs for mesoscale search and fine-tuning
- adapted Reformat_Partitions to deal with mesoscales files
- list of available programs:
 - 01-Prepare_Network : List_To_Net, Matrix_To_Net, Connected_Subgraphs
 - 02-Find_Communities: Communities_Detection, Mesoscales_Search, Mesoscales_Fine_Tuning
 - 03-Reformat_Results: Convert_Lol_To_Clu, Reformat_Partitions

radatools 1.1

- available also for Linux 32 (compatible with Linux 64)
- minor updates

radatools 1.0

- available only for Windows 32 (compatible with Windows 64)
- first release, with programs:
 - 01-Prepare_Network : List_To_Net, Matrix_To_Net, Connected_Subgraphs
 - 02-Find_Communities : Communities_Detection
 - 03-Reformat_Partition: Convert_Lol_To_Clu, Reformat_Partition