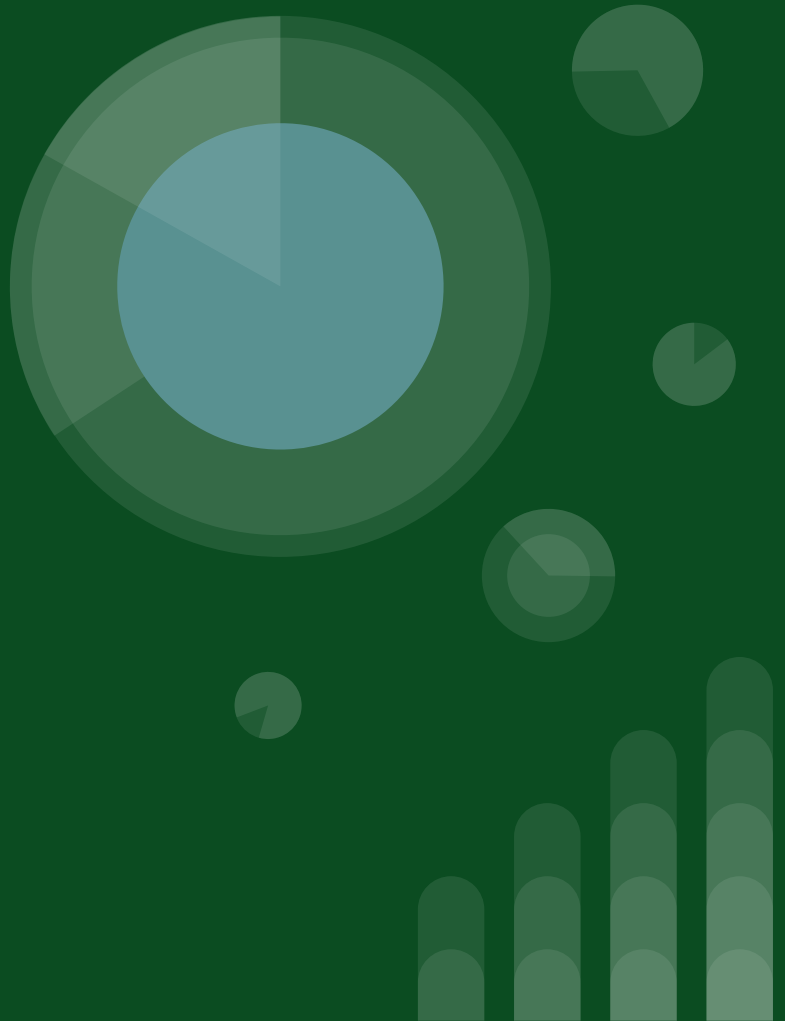
GRNsight

Kevin Patterson



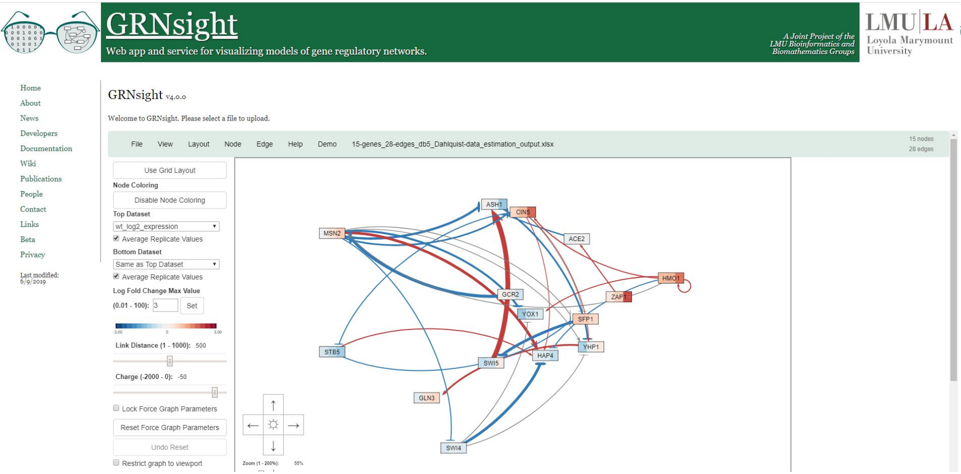
What is GRNsight?

- GRNsight is an open source web application for visualizing models of small- to medium-scale gene regulatory networks.
- Joint project of the Loyola Marymount University Bioinformatics and Biomathematics Groups headed by Dr. Dahlquist, Dr. Fitzpatrick and Dr. Dionisio
- Users upload spreadsheets generated by GRNmap, which is then used to create a graph of the GRN model which is displayed using nodes and edges
- Color the edges and adjust their thickness based on the sign and strength of the relationship
- User can modify the graph for best visual layout of the network

What will I do on GRNsight?

- When you right click on a Gene on the GRNsight it opens a new page which calls different APIs to receive and display information about the Gene
- Expand the Genes that the program handles beyond yeast to handle all major model organisms
- Display the data in a more user friendly and easily readable format

User POV


GRNsight
Web app and service for visualizing models of gene regulatory networks.
A Joint Project of the LMU Bioinformatics and Biomathematics Groups
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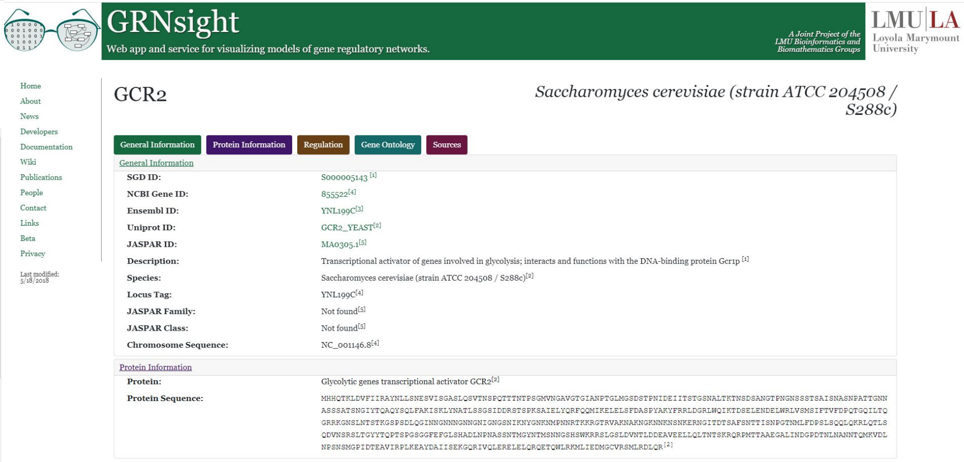
Last modified: 6/9/2019
GRNsight v4.0.0
Welcome to GRNsight. Please select a file to upload.
File View Layout Node Edge Help Demo 15-genes_28-edges_db5_Dahlquist-data_estimation_output.xlsx
15 nodes
28 edges
Use Grid Layout
Node Coloring
Disable Node Coloring
Top Dataset
wt_log2_expression
Average Replicate Values
Bottom Dataset
Same as Top Dataset
Average Replicate Values
Log Fold Change Max Value
(0.01 - 100): 3 Set
Link Distance (1 - 1000): 500
Charge (-2000 - 0): -50
Lock Force Graph Parameters
Reset Force Graph Parameters
Undo Reset
Restrict graph to viewport
ASH1
CIN5
ACE2
MSN2
HMO1
GCR2
ZAP1
YOX1
SFP1
STB5
YHP1
SWI5
HAP4
GLN3
SWI4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Last modified: 5/18/2018
GCR2
Saccharomyces cerevisiae (strain ATCC 204508 / S288c)
General Information
Protein Information
Regulation
Gene Ontology
Sources
General Information
SGD ID: S000005143 [1]
NCBI Gene ID: 855522[4]
Ensembl ID: YNL199C[3]
Uniprot ID: GCR2_YEAST[2]
JASPAR ID: MA0305.1[5]
Description: Transcriptional activator of genes involved in glycolysis; interacts and functions with the DNA-binding protein Gcr1p [1]
Species: Saccharomyces cerevisiae (strain ATCC 204508 / S288c)[2]
Locus Tag: YNL199C[4]
JASPAR Family: Not found[5]
JASPAR Class: Not found[5]
Chromosome Sequence: NC_001146.8[4]
Protein Information
Protein: Glycolytic genes transcriptional activator GCR2[2]
Protein Sequence:

Why you are interested

- The project relies on a lot of skills that I learned in interaction design, both frontend and backend design
- Development for a piece of an app as part of a team is a unique experience for me with both how we approached github issues and versioning.
- App is useful and contributing to its development is a good way to end my college career

Thanks for listening, any questions?