

- Implemented a web based user interface around an existing server application used in the simulation platform *Sim4Life* to process and manage large simulations and their results
- The web user interface facilitated the administration of all control job queues; implemented using C++ web toolkit called ‘Wt’

SQL Report Writer

Sept. 2010 - Jan. 2012

Bursar Office, TAMUCC

Corpus Christi, Texas

- Design and writing PL/SQL scripts for recordkeeping
- Perform generation and automation of reports

PROJECTS

1) *HINGE: Health Information Gateway and Exchange for radiation oncology*

An integrated data curation, storage and analytics portal to aid radiation therapy medical/clinical practitioners for better patient care and assessment of treatment plans

Technologies used: R, Node.js, MongoDB, Javascript, Express, Apache

2) *miRsnp: Identifying crucial SNPs and SNP-based miRNA interactions in diseases*

To identify SNP-based interactions and SNP-based miRNAs among disease specific miRNA-miRNA interaction networks by simulating the information diffusion flow

Technologies used: d3.js, MySQL, PHP, C, bash scripting

3) *miRfluence: Determining causal miRNAs and their signaling cascade in pan-cancer diseases*

To simulate the cascading flow of information/influence diffusion among miRNA networks in diseases and identify causal miRNAs

Technologies used: Matlab, GLPK, C, MySQL, PHP, Javascript, d3.js, JQuery, bash

4) *miRsig: Network inference of disease specific miRNA-miRNA interaction networks*

A statistical inference approach to predict miRNA-miRNA signature component across multiple disease categories

Technologies used: Matlab, R, JavaScript, JQuery, d3.js, MySQL, PHP, Apache, bash

5) miRNA data sharing collaboration with Philip Morris International research group

A RESTful web service for external data extraction of miRNA-related data and development of R packages in collaboration with Philip Morris International research group (*ongoing*)

Technologies used: cURL, json, PHP, MySQL, R

6) *iMiR: Visual analytics tool to study interaction networks of miRNAs*

A consolidated database of miRNA networks with diseases, TFs, genes, drugs, chemical and pathways with visual analytics for discovery

Technologies used: JavaScript, JQuery, d3.js (data visualization), MySQL, PHP, html, Apache

7) *DISMIRA: miRNA-disease network discovery using maximum-weighted matching model and motif-based analysis*

Two network theoretic approaches to determine crucial miRNA-disease associations and interacting network structures

Technologies used: GLPK, Python, JavaScript, JQuery, d3.js (data visualization), MySQL, PHP, html, Apache

8) *miRegulome*

An integrated online repository of entire regulatory modules of miRNA-omics data with integrative

PUBLICATIONS:
JOURNALS

1. **Nalluri Joseph**, William Sleeman, Khajamoinuddin Syed, Paul Hudgins, William Nieporte, Ibrahim Ramadan, Jatinder Palta, Michael Hagan, Preetam Ghosh, Rishabh Kapoor, “Health Information Gateway and Exchange (HINGE): Radiation Oncology Data Analytics Portal” 2018. *American Association of Physicists in Medicine* (Accepted)
2. **Nalluri Joseph**, William Sleeman, Khajamoinuddin Syed, Paul Hudgins, William Nieporte, Ibrahim Ramadan, Jatinder Palta, Michael Hagan, Preetam Ghosh, Rishabh Kapoor, “HINGE: A demonstration of FHIR framework principles into an integrated health care platform for quality assessment, analytics and smart decision-support apps in Radiation Oncology” 2018. *American Association of Physicists in Medicine* (Accepted)
3. **Nalluri Joseph J.**, Pratip Rana, Debmalya Barh, Vasco Azevedo, Thang N. Dinh, Vladimir Vladimirov and Preetam Ghosh. “Determining causal miRNAs and their signaling cascade in diseases using an influence diffusion model” *Scientific Reports* 7 (2017). [IF: 5.5]
4. **Nalluri, Joseph J.**, Debmalya Barh, Vasco Azevedo, and Preetam Ghosh. “miRsig: a consensus-based network inference methodology to identify pan-cancer miRNA-miRNA interaction signatures.” *Scientific Reports* 7 (2017). [IF: 5.5]
5. **Nalluri, Joseph J.**, Debmalya Barh, Vasco Azevedo, and Preetam Ghosh. “Towards a comprehensive understanding of miRNA regulome and miRNA interaction networks. *Journal of Pharmacogenomics & Pharmacoproteomics* 7, no. 160 (2016): 2153-0645. [IF: 1.55]
6. **Nalluri, Joseph J.**, Bhanu K. Kamapantula, Debmalya Barh, Neha Jain, Antaripa Bhattacharya, Sintia Silva de Almeida, Rommel Thiago Juca Ramos, Artur Silva, Vasco Azevedo, and Preetam Ghosh. “DISMIRA: Prioritization of disease candidates in miRNA-disease associations based on maximum weighted matching inference model and motif-based analysis. *BMC Genomics* 16, no. 5 (2015): 1. [IF: 3.86]
7. Barh, Debmalya, Bhanu Kamapantula, Neha Jain, **Joseph Nalluri**, Antaripa Bhattacharya, Lucky Juneja, Neha Barve et al. “miRegulome: a knowledge-base of miRNA regulomics and analysis. *Scientific Reports* 5 (2015). [IF: 5.5]

PUBLICATIONS:
CONFERENCES

1. **Nalluri Joseph**, et al. “A Smart Healthcare Portal for Clinical Decision Making and Precision Medicine” In *Proceedings of the 19th International Conference on Distributed Computing and Networking*, ACM, 2018.
2. **Nalluri Joseph**, Pratip Rana, Vasco Azevedo, Debmalya Barh, and Preetam Ghosh. “Determining influential miRNA targets in diseases using influence diffusion model. In *Proceedings of the 6th ACM Conference on Bioinformatics, Computational Biology and Health Informatics*, pp. 519-520. ACM, 2015. [Acceptance rate: 29%]
3. **Nalluri Joseph**, Bhanu Kamapantula, Preetam Ghosh, Debmalya Barh, et al. “Determining mirna-disease associations using bipartite graph modeling. In *Proceedings of the International Conference on Bioinformatics, Computational Biology and Biomedical Informatics*, p. 672. ACM, 2013. [Acceptance rate: 29%]

PUBLICATIONS:
BOOK CHAPTERS

1. **Nalluri Joseph J.**, Debmalya Barh, Vasco Azevedo and Preetam Ghosh. “Bioinformatics and systems biology in bio-engineering.” *Omics Technologies and Bio-engineering: Towards Improving Quality of Life*. Ed. D. Barh. Academic Press, 2017. Print.
2. Debmalya Barh, Eugenia Ch Yiannakopoulou, Emmanuel O Salawu, Atanu Bhattacharjee, Sudhir Chowbina, **Nalluri Joseph**, Preetam Ghosh, Vasco Azevedo, “In Silico Disease Model: From Simple Networks to Complex Diseases” *Animal Biotechnology: Models in discovery and translation*. Eds. Ashish Verma and Anchal Singh. Academic Press, 2017. Print.

- PRESENTATIONS
- **Nalluri Joseph**, “Deciphering patterns of miRNA-disease interactions via network science” *Science Luncheon*, Zürich Med Tech, Zürich, Switzerland, 2015 (as part of summer internship)
 - **Nalluri Joseph**, et al. “Determining mirna-disease associations using bipartite graph modeling. In *Proceedings of the International Conference on Bioinformatics, Computational Biology and Biomedical Informatics*, p. 672. ACM, 2013.
 - **Nalluri Joseph** and M. Mehrubeoglu, “Investigation of Hyperspectral Images of Biological Media through Parallel/Cluster Computing,” *9th Annual Pathways Student Research Symposium*, Texas A&M University, College Station, Texas, November 2011 [**Awarded**]
- REVIEWER
- BMC Cancer, BMC Journal
 - PLOS Computational Biology, PLOS Journal
 - Scientific Reports, Nature Journal
 - GigaScience, Oxford Journal
 - Genes, MDPI Journal
- TEACHING EXPERIENCE
- Graduate Teaching Assistant** Jan. 2012 - Aug. 2012
 COSC 2437.201 - Data Structures with Dr. Michael Scherger
 College of Science and Engineering, TAMUCC
- Taught and supervised a class of 25-30 students on course material and labs
- Graduate Teaching Assistant** Jan. 2010 - May 2010
 CHEM 4402 - Biochemistry II with Dr. Patrick Larkin
 College of Science and Engineering, TAMUCC
- Taught and supervised a class of 60 students on course materials and labs
- AWARDS
- Best in Physics Poster, AAPM Annual Meeting April, 2018
 - Poster: Health Information Gateway and Exchange (HINGE): Radiation Oncology Data Analytics Portal
 - 2nd place at *3MT (Three Minute Thesis)* Speaking Contest March, 2017
 - Doctoral Dissertation Fellowship, School of Engineering, VCU 2016-2017
 - Awarded to most accomplished final year Ph.D. candidates to complete the dissertation within the academic year by devoting full-time effort for research work
 - Outstanding Early Career Student Researcher, Dept. of Comp. Sci., VCU Oct. 2014
 - NSF Travel Award, ACM BCB Conference Sept. 2013
 - Top 1% Superior Research Poster Presentation Nov. 2011
 - 9th Annual Pathways Student Research Symposium at Texas A&M University, College Station
 - This award was presented to only 2 students among 186 applicants. Research poster was based on the research work done in the Master’s Thesis.
 - Graduate Student Scholarship Jan. 2010 - May 2012
- REFERENCES
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Additional references available upon request