

Prajwal Devkota

CONTACT INFORMATION	☎ 618-514-2146 📍 3001 S Ocean Dr, Apt 1221, Hollywood, FL 33019	www.pdevkota.com mail@pdevkota.com
RESEARCH INTERESTS	Graph Theory, Network Analysis, Machine Learning, Data Mining, Natural Language Processing, Knowledge Extraction, Computational Biology, Bioinformatics, High Performance Computing, Semantic Web Technology	
EDUCATION	University of Miami , Miami, FL Ph.D., Computer Science, <i>Expected: Spring 2021</i> M.S., Computer Science, <i>May 2020</i> Human Pathway Analysis for identification of significant proteins Advisor: Stefan Wuchty, Ph.D. McKendree University , Lebanon, IL B.S., Computer Science, Mathematics, <i>Cum Laude</i> <i>May 2008</i>	
RESEARCH EXPERIENCE	Analysis of protein-protein interaction networks <i>Research Assistant</i> , University of Miami <i>Aug. 2015 - Current</i> <ul style="list-style-type: none">Developing methods for identification of significant proteins based on their location in the pathway and expression data using random walker in a Protein-Protein Interaction Network. Developing algorithms to determine the proteins responsible for state change in biological systems through control theory. Applying various machine learning algorithms to predict such significant proteins for viral targets or causal genes for diseases. Mentor: Stefan Wuchty, Ph.D. Analysis of Hate in Social Media <i>Research Assistant</i> , University of Miami <i>Jan. 2018 - Current</i> <ul style="list-style-type: none">Analysis and modeling of hate in various social media with complexity and network based analysis Mentor: Stefan Wuchty, Ph.D. Regenbase <i>Research Assistant</i> , University of Miami <i>Aug. 2015 - Jan 2017</i> <ul style="list-style-type: none">Developing methods to extract information from Spinal Cord Injury related research publications using ontologies and text mining algorithms. Mentor: Ubbo Visser, Ph.D. Correcting for Cryptic Relatedness in Genome-Wide Association Studies <i>Research Assistant</i> , University of Miami <i>Jan. 2015 - Aug. 2015</i> <ul style="list-style-type: none">Improving the performance of the algorithm that infers kinship coefficient from identity states without assuming known pedigree, using expectation-maximization algorithm. Mentor: B. Kirkpatrick, Ph.D.	
PUBLICATIONS	<ul style="list-style-type: none">- Devkota, P., Wuchty, S., “Controllability of Regulatory Networks” (2021) In Preparation.- Johnson, N.F., N., Velasquez, Jha, O., Leahy, R., Johnson Restrepo, N., Sear, R., Manrique, P., Lupu, Y., Devkota, P., Wuchty, S., Goldberg, B. “Covid-19 infodemic reveals new tipping point epidemiology and a revised R formula” (2021) In Submission.- Devkota, P., Manrique, P., Zheng, M., Johnson, N.F., Wuchty, S., “Resurgence of Online Hate Group Activity Reveals New Viral Epidemiology” (2021) In Submission.	

	<ul style="list-style-type: none"> - Chamling, X., Kallman, A., Berlinicke, C., Devkota, P., Mertz, J., Pantoja, I. M., Smith, M., Chang, C., Kaushik, A., Chen, L., Whartenby K., Calabresi P. A., Mao, H., Want, T., Zack, D.J. "Single-Cell Transcriptomic Analysis Reveals Molecular Diversity of PDGFR+ Human Oligodendrocyte Progenitor Cells" <i>Nature Communications</i>. (2021). Accepted.
	<ol style="list-style-type: none"> 1. Devkota, P., Danzi, M., Lemmon, V., Bixby, J., Wuchty, S., "Computational Identification of Kinases that Control Axon Growth in Mouse," <i>SLAS Discovery</i>. 2020. 2. Devkota, P., Wuchty, S., "Controllability analysis of molecular pathways points to proteins that control the entire interaction network" <i>Scientific reports</i>. (2020). 3. Boltz, T. A., Devkota, P., Wuchty, S., "Collective influencers in protein interaction networks." <i>Scientific reports</i>. (2019). 4. Johnson, N.F., Leahy, R., Johnson Restrepo, N., Velasquez, N., Zheng, M., Manrique, P., Devkota, P., Wuchty, S., "Hidden resilience and adaptive dynamics of the global online hate ecology" <i>Nature</i> 573 (2019). 5. Devkota, P., Danzi M, Wuchty, S., "Beyond degree and betweenness centrality: Alternative topological measures to predict viral targets," <i>PloS-one</i> (2018) 6. Goodacre, N., Devkota, P., Bae, E., Wuchty, S., Uetz, P., "Protein-protein interactions of human viruses," <i>Seminars in Cell & Developmental Biology</i>. Academic Press, 2018.
POSTER PRESENTATION	<ol style="list-style-type: none"> 1. Devkota, P., Kirkpartrick, B., Blanton, S., Bouchard-Côté, A., "Correcting for Cryptic Relatedness in Genome-Wide Association Studies," <i>23rd Annual International Conference on Intelligent System for Molecular Biology 14th European Conference on Computational Biology (ISMB/ECCB)</i>, 2015.
WORK EXPERIENCE	<p>Sniperdyne Systems, Belleville, IL <i>Web Developer</i> May. 2008 - Aug. 2014 Responsible for developing ERP integrated eCommerce system. Involved in creation of custom SQL replication tool that synced data using web services. Integrated 3rd party shipping, payment, and tax solutions to the in house eCommerce complete with CMS.</p>
TEACHING EXPERIENCE	<p>Teaching Assistant, University of Miami, Miami, FL</p> <ul style="list-style-type: none"> • CSC 427 - Theory of Computations Spring 2016 • CSC 220 - Computer Programming II Fall 2019 • CSC 645 - Introduction to Artificial Intelligence Fall 2019 • CSC 210 - Computing for Scientists Spring 2020
AWARDS	<ul style="list-style-type: none"> • Outstanding TA for 2020 (among CS graduate students) University of Miami • UM Fellow University of Miami • Presidential Scholar McKendree University • Dean's List McKendree University
SKILLS	JAVA, C++, R, Python, ASP.Net, PHP, C#, MSSQL, MySQL, MongoDB, Javascript