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M.S (Comp. Sci.); M.S, Ph.D. (Bioinformatics)

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Citizenship: US Permanant Resident

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A. Professional Experience (Relevant)*:

2020: Yale University, New Haven, USA. Title: Associate Research Scientist (https://medicine.yale.edu/profile/shrikant_pawar/). Current projects in collaboration with Dr. Christian Griñán Ferré, University of Barcelona; Dr. Steven Kleinstein NIH IMPACC study, Yale University; Dr. Uduman, Dana Farber Harvard; Dr. George Tegos, Gamma Therapeutics; and Dr. Lahiri, Sunway University
2020: ChestAi, New Haven, USA. Title: Founder (https://www.chestai.org/)
2019: Karyosoft, Indianapolis, USA. Title: Genomics Data Scientist (Worked on angular, nodejs, flask, AWS, MongoDB, Rabbit-mq, Nginx webserver, Jbrowse techniques for data mining and software visualization) (https://www.karyosoft.com/)
2019: Synergy (Plus+) LLC.P.O. Atlanta, USA. Title: Data Scientist (Worked on web development, statistical and data mining techniques for platform optimization) (https://www.synergyiddplus.com/)
2018: Georgia State University, Department of Biology, Atlanta, USA. Title: Instructor of Record, R programming for Bioinformatics (Biol 6900). Class content: http://sites.gsu.edu/spawar2/bioinformatics-class-6930-fall-2018/
2018: Georgia State University, Department of Computer Science & Biology, Atlanta, USA. Title: Ahmed T. Abdelal Fellow in Molecular Genetics and Biotechnology (https://app.gsu.edu/scholarships/search_scholarships.cfm?view_scholarship=2612)
2013-17: Georgia State University, Department of Computer Science & Biology, Atlanta, USA. Title: Research and Teaching Assistant (Biol 1103)
2013: Freie Universität Berlin, Berlin, Germany. Title: Center for International Collaborative (CIC) Research Fellow (https://www.fu-berlin.de/en/sites/inu/network-university/centers/cic/index.html)
2012: University of Iowa, Department of Biology, Iowa City, USA. Title: Visiting Research Fellow (https://www.smolikovelab.com/members/shrikant-pawar/)
2011: Cornell University, Weill Cornell Medical College, New York, USA. Title: Research Assistant
2010-11: Western Kentucky University, Department of Biology, Kentucky, USA. Title: Teaching Assistant for Biology Course (Biol 121 & 114)
2009-10: Western Kentucky University, Bioinformatics Laboratory, Kentucky, USA. Title: Bioinformatics Laboratory Student Worker

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B. Published Research Articles (Selected)*:

2021:
1. Mapping subnational HIV mortality in six Latin American countries with incomplete vital registration systems, ***Local Burden of Disease Study***, *BMC Medicine*

2. Hemoglobin induces early and robust biofilm development in Streptococcus pneumoniae by a pathway that involves comC but not the cognate comDE two-component system, *Fahmina Akhter, Edroyal Womack, Jorge E. Vidal, Yoann Le Breton, Kevin S. McIver, **Shrikant Pawar** & Zehava Eichenbaum, ASM Infection and Immunity*

2020:

1. Comparison of transcriptomes from two chemosensory organs in four decapod crustaceans reveals hundreds of candidate chemoreceptor proteins, *Mihika T Kozma, Hanh Ngo-Vu, Yuen Yan Wong, Neal S Shukla, **Shrikant D Pawar**, Adriano Senatore, Manfred Schmidt, Charles D Derby, PLoS ONE*
2. Causes of blindness and vision impairment in 2020 and trends over 30 years, and prevalence of avoidable blindness in relation to VISION 2020: The Right to Sight: an analysis for the ***Global Burden of Disease Study**, The Lancet Global Health*
3. Effects of temperature on COVID-19 transmission, ***Shrikant Pawar**, Aditya Stanam, Mamata Chaudhari, Durga Rayudu, medRxiv*
4. DNA Encoded Glycan Libraries as a next-generation tool for the study of glycan-protein interactions, *Shukkoor M. Kondengaden, Jiabin Zhang, Huajie Zhang, Aishwarya Parameswaran, Shameer M. Kondengadan, **Shrikant Pawar**, Akhila Puthengot, Rajshekhar Sunderraman, Jing Song, Samuel J. Polizzi, Liuqing Wen, Peng George Wang, bioRxiv*
5. Clustering Reveals Common Check-Point and Growth Factor Receptor Genes Expressed in Six Different Cancer Types, ***Shrikant Pawar** and Aditya Stanam, Springer: Lecture Notes in Computer Science*
6. PLK4 is a HIF-1α target gene: A novel mechanism inducing centrosome amplification in tumor cells, *Karuna Mittal, Jaspreet Kaur, Shaligram Sharma, Ishita Choudhary, Guanhao Wei, Precious Imhansi Jacob, Da Hoon Choi, Nagini Maganti, **Shrikant Pawar**, Michael S. Toss, Emiel A. Janssen, Meenakshi V. Gupta, Michelle D. Reid, Emad A. Rakha, Padmashree Rida, Ritu Aneja, Proceedings of the Annual Meeting of the American Association for Cancer Research (AACR) 2020*
7. Common cancer biomarkers of breast and ovarian types identified through artificial intelligence, ***Shrikant Pawar**, Tuck Onn Liew, Aditya Stanam, Chandrajit Lahiri, Wileys: Chemical Biology and Drug Design*
8. Scalable, reliable and robust data mining infrastructures, ***Shrikant Pawar** and Aditya Stanam, IEEE Fourth World Conference on Smart Trends in Systems, Security and Sustainability*
9. Hemoglobin stimulates vigorous growth of Streptococcus pneumoniae and shapes the pathogen's global transcriptome, *Fahmina Akhter, Edroyal Womack, Jorge E. Vidal, Yoann Le Breton, Kevin S. McIver, **Shrikant Pawar** & Zehava Eichenbaum, Nature: Scientific Reports*

2019:

1. Developing a DEVS-JAVA Model to Simulate and Pre-test Changes to Emergency Care Delivery in a Safe and Efficient Manner, ***Shrikant Pawar** and Aditya Stanam, Springer: Lecture Notes in Computer Science*
2. Web-Based Application for Accurately Classifying Cancer Type from Microarray Gene Expression Data Using a Support Vector Machine (SVM) Learning Algorithm, ***Shrikant Pawar**, Springer: Lecture Notes in Computer Science*
3. A Six-Gene-Based Prognostic Model Predicts Survival in Head and Neck Squamous Cell Carcinoma Patients, ***Shrikant Pawar** and Aditya Stanam, Springer: Journal of Maxillofacial and Oral Surgery*
4. Curcumin in combination with anti-cancer drugs: A nanomedicine review, *Harshul Batra, **Shrikant Pawar** and Bahl D, Elsevier: Pharmacological Research*
5. Spermine and oxacillin stress response on the cell wall synthesis and the global gene expression analysis in Methicillin-resistance Staphylococcus aureus***, Shrikant Pawar**, Xiangyu Yu and Chung-Dar Lu, Springer: Genes and Genomics*
6. Delineating the plausible molecular vaccine candidates and drug targets of multidrug resistant Acinetobacter baumannii, *C Lahiri, Shama Mujawar, **Shrikant Pawar**, Derek Gatherer, Frontiers in Cellular and Infection Microbiology*
7. Current clinical trials update on HIV/AIDS: a systematic review, *Harshul Batra, and **Shrikant Pawar**, International Journal of HIV-Related Problems: HIV & AIDS Review*
8. Predicting the prognosis for cancer patients with interleukins gene expression level, *Aditya Stanam, and **Shrikant Pawar**, AACR: Cancer Res*
9. HIV-1 protease triple mutants V32I, I47V, V82I with GRL-011-11A (a methylamine bis- Tetrahydrofuran P2-Ligand, sulfonamide isostere derivate), *Yuan-FangWang, **Shrikant Pawar** and Irene T. Weber, RCSB PDB DOI: 10.2210/pdb6OTG/pdb*
10. Precision medicine and future of cancer treatment, *Rohit C, **Shrikant Pawar**, C Lahiri, Precision Cancer Medicine*
11.In Silico Approaches for Unearthing Bacterial Quorum-Sensing Inhibitors Against Pathogenic Bacteria, ***Shrikant Pawar**, P Brahma, C Lahiri, Springer, Singapore: Implication of Quorum Sensing and Biofilm Formation in Medicine, Agriculture and Food Industry*
12. Analysis of drug resistance in HIV protease, ***Shrikant Pawar**, Chris Freas, Robert W. Harrison, and Irene T. Weber, BMC: Bioinformatics*
13. KIFCI, a novel putative prognostic biomarker for ovarian adenocarcinomas: delineating protein interaction networks and signaling circuitries, ***Shrikant Pawar**, Shashikiran Donthamsetty, Vaishali Pannu, Padmashree Rida, Angela Ogden, Nathan Bowen, Remus Osan, Guilherme Cantuaria, and Ritu Aneja, BMC: Journal of Ovarian Research*

14. Structural studies of antiviral inhibitor with HIV-1 protease bearing drug resistant substitutions of V32I, I47V and V82I, ***Shrikant Pawar***, *Yuan-FangWang, Andres Wong-Sam, Johnson Agniswamy, Arun K. Ghosh, Robert W. Harrison, and Irene T. Weber, Elsevier: Biochemical and Biophysical Research Communications*
15. In silico Identification of the Indispensable Quorum Sensing Proteins of Multidrug Resistant Proteus mirabilis, ***Shrikant Pawar***, *MD Ashraf, Shama Mujawar, Rohit Mishra, and C Lahiri, Frontiers in Cellular and Infection Microbiology*
16. A side-effect free method for identifying cancer drug targets, *MD Ashraf, Shama Mujawar,* ***Shrikant Pawar****, and C Lahiri, Nature: Scientific Reports*

2018:
1. RodentSQL: a software suite for colony management of animal protocols, ***Shrikant Pawar*** *and Harshul Batra, Future Science OA*
2. Software effort prediction with algorithm based frameworks, ***Shrikant Pawar*** *and Aditya Stanam, International Journal of Engineering and Computer Science*
3. Evaluating the computing efficiencies (specificity and sensitivity) of graphics processing unit (GPU)-accelerated DNA sequence alignment tools against central processing unit (CPU) alignment tool, ***Shrikant Pawar****, Aditya Stanam and Ying Zhu, Journal of Bioinformatics and Sequence Analysis*
4. Online electronic laboratory notebook: A secure cloud storage system scripted in Hypertext Pre-processor (PHP) programming language, ***Shrikant Pawar*** *and Harshul Batra, Journal of Engineering and Technology Research*
5. Quorum sensing: An imperative longevity weapon in bacteria, ***Shrikant Pawar*** *and C Lahiri, African Journal of Microbiology Research*
6. Transcriptomic data for analyzing global gene expression patterns in Methicillin-resistant Staphylococcus aureus in response to spermine and oxacillin stress, ***Shrikant Pawar****, Xiangyu Yu and Chung-Dar Lu, Elsevier: Data in Brief*

2017:
1. Evaluation of centrosome clustering protein KIFC1 as a potential prognostic biomarker in serous ovarian adenocarcinomas, *Karuna Mittal, Da Hoon Choi, Sergey Klimov,* ***Shrikant Pawar****, Ramneet Kaur, Anirban Mitra, Meenakshi Vij Gupta, Ralph Sams, Guilherme Cantuaria, Padmashree C.G. Rida, Ritu Aneja, ACS: Journal of Clinical Oncology*
2. Computational Identification of Indispensable Virulence Proteins of Salmonella Typhi CT18, ***Shrikant Pawar****, MD Ashraf, and C Lahiri, Current Topics in Salmonella and Salmonellosis*

2016:
1. A centrosome clustering protein, KIFC1, predicts aggressive disease course in serous ovarian adenocarcinomas, *Karuna Mittal, Da Hoon Choi, Sergey Klimov,* ***Shrikant Pawar****, Ramneet Kaur, Anirban K. Mitra, Meenakshi V. Gupta, Ralph Sams, Guilherme Cantuaria, Padmashree C. G. Rida, Ritu Aneja, BMC: Journal of Ovarian Research*

2014:
1. Interactome analyses of Salmonella pathogenicity islands reveal SicA indispensable for virulence, *Chandrajit Lahiri,* ***Shrikant Pawar,*** *Radhakrishnan Sabarinathan, Md. Izhar Ashraf, Yamini Chand, Dipshikha Chakravortty, Elsevier: Journal of Theoretical Biology*

2013-2011:
1. Determining the impact of Vitamin E & Selenium supplementation on gene expression in the brains of mice infected with T. gondii, ***Shrikant Pawar****, Cheryl Davis, Claire Rinehart, Proceedings of International Work-Conference on Bioinformatics and Biomedical Engineering*
2. Investigating Emerging Trends of Intraocular Lens (IOL's) Implantation in Rural India for Cataract, ***Shrikant Pawar*** *and Tejas Gosavi, Ophthalmology*
3. Identifying indispensable proteins of the type III secretion systems of Salmonella enterica serovar Typhimurium strain LT2, ***Shrikant Pawar*** *and C Lahiri, BMC: Bioinformatics*
4. Statistical analysis of microarray gene expression data from a mouse model of toxoplasmosis, ***Shrikant Pawar****, Cheryl Davis, Claire Rinehart, BMC: Bioinformatics*
5. Determining impact of antioxidant supplementation on gene expression in the brains of mice infected with T.gondii, ***Shrikant Pawar****, Cheryl Davis, Claire Rinehart, J. of the Kentucky Academy of Science*

C. Conference Proceedings & Poster Presentations (Selected)*:

1. 4th International Conference on Applied Mathematics and Simulation 2021. Machine learning application in genomics, by ***Shrikant Pawar****, Keynote speaker and general chair, http://www.4th-amms.org/com.html.*

2. 4th International Cells in Experimental Life Science Workshop, CELLS 2020. Depositing single cell sequencing data to shared data portals, by ***Shrikant Pawar****, Anthony Melillo, Hailong Meng, Darwin D'Souza, Bjoern Peters, Randi Vita, Steven H. Kleinstein, Kei-Hoi Cheung, https://sites.google.com/view/cells-2020-workshop/home*

3. 8th International Work-Conference on Bioinformatics and Biomedical Engineering, Granada, Spain, 2020. Clustering reveals common check-point and growth factor receptor genes expressed in six different cancer types, by ***Pawar SD****, Stanam A and Lahiri C, https://iwbbio.ugr.es/*

4. 4th Smart Trends in Systems, Security and Sustainability Conference, London, UK, 2020. Scalable, reliable and robust data mining infrastructures, by ***Pawar SD****, Stanam A, https://worlds4.co.uk/*

5. American Association for Cancer Research, Atlanta, GA, March 2019. Predicting the prognosis for cancer patients with interleukins gene expression level, by ***Pawar SD****, Stanam A, https://www.aacr.org/about-the-aacr/newsroom/news-releases/aacr-to-host-2019-annual-meeting-in-atlanta-march-29-april-3/*

6. *Scientific Computing Conference*, Atlanta, GA, October 2018. Studies of four investigational protease inhibitors with HIV-1 protease bearing drug resistant substitutions of V32I, I47V and V82I, by ***Pawar SD****, Irene Weber, and Robert Harrison, https://technology.gsu.edu/scientific-computing-day/scientific-computing-day-poster-presenters/*

7. *Scientific Computing Conference*, Atlanta, GA, October 2017. Analysis of Drug Resistance in HIV PR, by ***Pawar SD****, Irene Weber, Christopher F, and Robert Harrison, https://technology.gsu.edu/scientific-computing-day/conference-archive/#2017*

8. *Computer Science Poster & Demo Day*, Atlanta, GA, October 2018. Studies of four investigational HIV-1 protease inhibitors, by ***Pawar SD****, Irene Weber, and Robert Harrison, https://www.cs.gsu.edu/2018/05/31/department-hosts-student-demo-and-poster-day/*

9. *2nd International Conference on Genomics (ICG)*, Sacramento, California, USA, September 2013, Analyzing Expression Pattern's and Correlation's for HSET, Survivin & Ki67 genes in ER, PR & HER2 Negative Breast Cancer Patient's, by ***Pawar S.D****, Vaishali Phannu, and Ritu Aneja, https://icg.bio/*

10. *244th American Chemical Society (ACS) Conference*, Sandiego Convention Center, California, USA, March 2012, Statistical Analysis of Microarray Gene Expression Data from a Mouse Model of Toxoplasmosis, by ***Pawar S.D****, D. Cheryl and R. Claire, https://www.acs.org/content/acs/en/meetings/acs-meetings/about/meetings-archive.html*

11. *11th International Conference, Functional Foods and Chronic Inflammation: Science and Practical Application*, Sandiego, California, USA, August 2012, Determining the impact of vitamin E and selenium supplementation on gene expression in the brains of mice infected with T. gondii, by ***Pawar S.D****, D. Cheryl and R. Claire, https://www.functionalfoodscenter.net/11th_International_conference_-_USD.html*

12. *112th Sigma Xi Annual Meeting & International Research Conference*, Raleigh, North Carolina, USA, Nov 2011, Statistical Analysis of Microarray Gene Expression Data from a Mouse Model of Toxoplasmosis by ***Pawar S.D****, D. Cheryl and R. Claire, https://www.sigmaxi.org/home*

13. *WKU Bio informatics and Information Science Center (WKU-BISC) Research Symposium*, Western Kentucky University, Bowling Green, Kentucky, USA, Nov 2011, Statistical Analysis of Microarray Gene Expression Data from a Mouse Model of Toxoplasmosis, by ***Pawar S.D****, D. Cheryl and R. Claire, https://www.wku.edu/bioinformatics/*

14. *97th Annual Kentucky Academy of Science (KAS) Conference*, Murray State University, Murray, Kentucky, USA, Nov 2011, Statistical Analysis of Microarray Gene Expression Data from a Mouse Model of Toxoplasmosis, by ***Pawar S.D****, D. Cheryl and R. Claire, https://msublueandgold.org/2011/12/*

15. *41st Annual Student Research Conference (WKU ASRC)*, Western Kentucky University, Bowling Green, Kentucky, USA, March 2011, Statistical Analysis of Microarray Gene Expression Data from a Mouse Model of Toxoplasmosis, by ***Pawar S.D****, D. Cheryl and R. Claire.*

16. *10th Annual Kentucky Bio-Medical Research Infrastructure (KBRIN) Conference*, University of Memphis, Tennessee, USA, Jan 2011, Comparing Vitamin E and Selenium diet effects on Brain of a Normal and Toxoplasma infected mice, by ***Pawar S.D****, D. Cheryl and R. Claire.*

17. *96th Annual Kentucky Academy of Science (KAS) Conference*, Western Kentucky University, Bowling Green, Kentucky, USA, Nov 2010, Identification of differentially expressed genes in mice brain with Vitamin E and Selenium supplementation, by ***Pawar S.D****, D. Cheryl and R. Claire, https://www.kystandard.com/content/wku-students-win-ky-academy-science*

D. Manuscripts Under Submission (Selected)*:

1. Depositing single cell sequencing data to shared data portals
2. LinkedImm: A linked data graph database for integrating immunological data
3. Current clinical trials and patent update on lung cancer: a retrospective review
4. Machine learning for identification and characterization of molecular gene signatures in progression of benign tumors

5. *PLK4* is a HIF-1α target gene: Linking hypoxia and centrosome amplification in cancer cells
6. Extracellular calcium ion mediates enrichment of calcium-sensing receptor interactome involved in receptor maturation and trafficking
7. Techniques of time series modeling in complex systems
8. RNA-seq and miRNA-seq data from pharmacological intervention with UNC0642 in SAMP8 model of Alzheimer disease mice
9. Antimicrobial light-based technologies for managing the COVID-19 pandemic crisis
10. Visible Light Photodisinfection; The art of the deal amid a viral pandemic
11. Microarray-based gene expression profiling of mice model of toxoplasmosis to identify newer targets for therapy
12. Curcumin derivatization unravels cryptic antimicrobial properties
13. Protein-Protein Interaction Databases (PPI): Comprehensive curation of protein interactomes
14. Bioinformatics algorithms and software for predicting microbiomes
15. Natural selection and evolution of protein structural databases
16. Impact of lockdown measure on COVID-19 incidence and mortality in the top 31 countries of the world

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E. Travel Awards (Selected)*:

1. Georgia State University, Biology Graduate Student Association (BGSA), 2nd International Conference on Genomics (ICG), Sacramento, California, USA, September 2013.
2. Western Kentucky University, Department of Biology, 112th Sigma Xi Annual Meeting & International Research Conference, Raleigh, North Carolina, USA, Nov 2011.
3. Biology Graduate Student Association (BGSA), Georgia State University, American Association for Cancer Research (AACR) conference, 2019.
4. Tuition Scholarship for ICCS 2018, New England Complex Systems Institute (NECSI) (https://necsi.edu/) conference, 2018.
5. Machine Learning in Science and Engineering Symposium, Institute for Data Engineering and Science (http://dsf.ideas.gatech.edu/events/mlse), Georgia Institute of Technology, 2019.

F. Grants Under Review (Selected)*:

1. Extra-mural research (EMR), Ministry of HRD, Government of India: "Intuitionistic Fuzzy Sets (IFS) for Homeopathic Drug Selection". Role: Co-principal investigator. STSH Registration No: STSH180271. Invited talk: "Intuitionistic Fuzzy Sets (IFS) for Drug Selection", Bharati Medical School, Pune, India.
2. SBIR Phase I grant, National Institute of Health (NIH), USA: "Detection of anti-glycan antibody biomarkers and cell surface glycointeractomic studies using DNA encoded glycan libraries". Role: Consultant. Federal Identifier: GM134773.
3. Yale sustainable heath, USA: "CHEST-AI: AI tool for detection of lung diseases from chest X- ray data". Role: Principal investigator.
4. Chan Zuckerberg Initiative, Essential Open Source Software for Science- Cycle 2, USA: "Electronic Synthetic Chemistry Portal for Translational Innovation in Pain", Role: Principal investigator, ID: EOSS2-0000000046.
5. SBIR Phase I grant, National Science Foundation (NSF), USA: "AI-NLP driven virtual trials site for faster better trials". Role: Postdoctoral data science fellow.
6. Tsai Center for Innovative Thinking at Yale Innovation Fund, USA: "LivePark: AI driven real time parking app for detection of parking spaces", Role: Principal investigator.
7. O'Brien Kidney Grant at Yale, USA: "Artificial Intelligence tools for detecting prognostic biomarker genes in renal cystic and benign nodules", Role: Co-principal investigator.

G. Grants Under Preparation (Selected)*:

1.Sunway Research Collaboration Scheme (T20) grant, Malaysia: "CHEST-AI: AI tool for detection of lung diseases from chest X-ray data", Role: Co-principal investigator.
2. JH Milstone Fund Award & ADRC Research Scholar Award 2020, Yale University, USA: "Utilizing machine learning and microarrays for identifying gene biomarkers in pulmonary embolism: A step towards personalized medicine", Role: Principal investigator.

H. Grants Received:

1. Center for Excellence in Teaching and Learning (CETL) Hardware Grant (2018), Georgia State University, USA (https://cetl.gsu.edu/): "Electric scooter for overcoming transportation and pollution problems", https://devpost.com/software/ebird. Prototype selected for Collegiate Cup Competition and TYE University Competition Qualifying Round 2019 and Entrepreneurship and Innovation Institute (ENI) Mentor Program, Role: Investigator.

2. Create-X, Startup Launch Grant (2019), Georgia Institute of Technology, USA (https://create-x.gatech.edu/): "Utilization of convolutional neural networks for security against password cracking", Role: Investigator.
3. Yale University, Rothberg Fund (2020), USA (https://medium.com/tsai-city/kickstarting-healthcare-innovation-with-the-rothberg-catalyzer-prototype-fund-6f5a1f37c5c2): "CHEST-AI: AI tool for detection of lung diseases from chest X- ray data", https://www.chestai.org/ , Role: Investigator.
4. Entrepreneurship Foundation Fund (2020), USA (https://www.entrepreneurshipfoundation.org/): "CHEST-AI: AI tool for detection of lung diseases from chest X- ray data", https://www.chestai.org/ , Role: Investigator.

I. Grants Unsuccessful (2019-20):

1. Quanterix Accelerator Grants (2019), USA: "IL pathway genes can be used to predict the survival in different cancers", Role: Co-principal investigator.
2. FY2019 Georgia State University Internal Dissertation Grant, USA: "Bioinformatics Techniques for Studying Drug Resistance in HIV and *Staphylococcus aureus*", Role: Investigator.
3. Yale CoReCT 2020 COVID-19 Internal Pilot Award: "Identification and characterization of therapeutic targets against *SARS-CoV-2* bait proteins", Role: Co-principal investigator.

J. Education:

2014-2019:	Doctor of Philosophy (Bioinformatics) Georgia State University, Atlanta, Georgia, USA Advisers: Dr. Irene. Weber (https://cas.gsu.edu/profile/irene-weber/) Dr. Robert. Harrison (https://www.cs.gsu.edu/profile/robert-harrison/)
2016-2018:	Master of Science (Computer Science) Georgia State University, Atlanta, Georgia, USA Adviser: Dr. Robert. Harrison
2014-2016:	Master of Science (Biology) Georgia State University, Atlanta, Georgia, USA
2009-2012:	Master of Science (Bioinformatics) Western Kentucky University, Bowling Green, Kentucky, USA Adviser: Dr. Claire. Rinehart (https://www.wku.edu/artp/webpages/bisc_dir.php)

K. Doctoral Dissertation:

Goal: Identifying newer bioinformatics techniques for studying drug resistance in HIV & Staphylococcus aureus. Dissertation published at: https://scholarworks.gsu.edu/biology_diss/216/

Contributions: Application of machine learning techniques (Restricted Boltzmann Machine) on next generation sequencing, microarray datasets and structure guided drug design studies on HIV-1 protease. Application of algorithms was performed using R and Python functional programming languages while the structure guided drug design was studied using enzyme kinetics and X-ray crystallography. Our new technique of applying Restricted Boltzmann Machine produced highly accurate and robust classification of HIV protease resistance profiles. It was also used to effectively compare resistance profiles of different clinical protease inhibitors.

L. 1. Master's Degree (Computer Science) Project:

Goal: Computational optimization of defined graph-based sequence structure HIV-1 protease resistance prediction through supervised, unsupervised machine learning techniques.

Contributions: Application of supervised and unsupervised clustering techniques on next generation sequencing datasets for identifying representative HIV-1 protease sequences.

L. 2. Master's Degree (Bioinformatics) Project:

Goal: Transcriptomic data analysis to determine the impact of antioxidant supplementation on gene expression in brains of mice infected with *T. gondii*.

Contributions: Application of linear transformations like data driven Haar-Fisz transformations on microarray datasets for identifying gene expression trends.

M. Expertise:
Programming Languages (Functional): R Language, Python, OpenACC implementation for parallel processing on HPC cluster, Common Gateway Interface (CGI) scripting for web server hosting, Perl, MATHLAB.
Programming Languages (OOP): Java, C++
Markup Languages: HTML, CSS, JavaScript, PHP, JavaScript Object Notation (JSON) usages *Graphics/GPU Processing Languages:* OpenGL, WebGL implementations, node.js
Web Frameworks: Angular, flask, Rabbit-mq, Nginx webserver, Jbrowse
Command Line Interface Languages (CLI): bash, csh and tcsh, ksh, sh, windows batch language. IDE: Android Studio, NetBeans
OS: Windows, Unix/Linux, Mac OSx
Databases and cloud computing: SQL, MySQL, MongoDB, AWS
Analysis of next generation sequencing datasets: Trinity de-novo and reference alignments in High Performance Computing (GSU OCTAN and CARINA HPC) environment, BLAST, ORF finder, database searches, variant calling.
Analysis of Microarray datasets: Agilent & Affymetrix Microarray data processing, CHIP Seq and CHIP on CHIP analysis with QUEST, MACS2.
Protein Modeling and simulation studies: Protein modeling with Autodock, DEVS Java modeling and simulation techniques, protein molecular replacement and refinements using Shelx. Yale Genetics and SEAS certification on machine learning for single cell analysis.
Bioinformatics software's: DNA Master, Genius, Apollo, Agilent Genespring GX, Ingenuity Pathway Analysis, Cytoscape, Gene Mania.
Structure visualization tools: MGLtool, Pymol and Coot.
Android & web application projects: https://github.com/spawar2
Linkedin: www.linkedin.com/in/shrikant-pawar-ms-ph-d-5bb37a16
Google Scholar: https://scholar.google.com/citations?user=SvcIPSsAAAAJ&hl=en&oi=ao
Research Gate: https://www.researchgate.net/profile/Shrikant_Pawar14
NCBI Bibliography: https://www.ncbi.nlm.nih.gov/myncbi/18IT7znYQEs1yv/bibliography/public/
Mendeley Profile:https://www.mendeley.com/profiles/shrikant-pawar8/?viewAsOther=true
Loop Profile: https://loop.frontiersin.org/people/534087/overview
Scopus Author ID: https://www.scopus.com/authid/detail.uri?authorId=56147786800
IEEE Author ID: https://ieeexplore.ieee.org/author/37088520198
ORCiD: https://orcid.org/0000-0002-6157-2462

N. Other Creative Products:

1. Android utility app: This project was focused on development of android application with several use case utilities: https://github.com/spawar2/Android-Utility-App-
2. A PHP, MySQL based online shopping portal: This project was focused on development of online shopping portal similar to Amazon and ebay: https://github.com/spawar2/Final_Project_PHP_SQL
3. Machine learning for selection and classification of HIV PR resistance: This project was focused on applying neural network architecture on HIV deep sequencing data: https://github.com/spawar2/HIV_Machine_Learning_Techniques
4. Java-platform-to-create-logic-circuit to evaluate-bolean-expression: This project was focused on developing a java platform to evaluate bolean expressions from computer architecture: https://github.com/spawar2/Computer-Architecture–Java-platform-to-create-logic-circuit–evaluate-bolean-expression
5. Java_SQL_MiceExperiment_Record_Tracking_Software: This project was focused on development of a java gui with record tracking features: https://github.com/spawar2/Java_SQL_MiceExperiment_Record_Tracking_Software
6. A PHP, MySQL based electronic record keeping cloud system: This project was focused on developing electronic record keeping cloud system: https://github.com/spawar2/Electronic-Cloud-Notebook–PHP–MySQL–Apache
7. Glycan-to-DNA-Mapping-Web-Server: This project was focused on developing a python based web platform to handle Glycan-to-DNA-Mapping queries: https://github.com/spawar2/Glycan-to-DNA-Mapping-Web-Server
8. Patient flow simulation in EMS department: This project was focused on developing a devs-java based EMS simulation to address ED overcrowding: https://github.com/spawar2/Devs_Java_Patient_Flow_SimulationinEMS
9. Head-Neck-Cancer–ROC–SVM–KM–Expression-Analysis: This project was focused on support vector machine analysis of HNC patients: https://github.com/spawar2/Head-Neck-Cancer–ROC–SVM–KM–Expression-Analysis
10. Interleukin_Pathway_Survival_Gene_Expression_Analysis: This project was focused on gene expression analysis of Interleukin_Pathway genes: https://github.com/spawar2/Interleukin_Pathway_Survival_Gene_Expression_Analysis
11. Face-Recognition-Python: This project was focused on utilizing open CV python for facial recognition: https://github.com/spawar2/Face-Recognition-Python
12. Forcasting-pipelines: This project was focused on developing 3 Forcasting-pipelines with time series data: https://github.com/spawar2/Forcasting-pipelines

13. Random-Forest-for-Ovarian-Breast-Cancer-Patients: This project was focused on developing a biomarker utilizing random forest technique: https://github.com/spawar2/Random-Forest-on-Ovarian-Breast-Cancer-Patients
14. GeneSearch: This project was focused on developing a java gui to search genes from public repositories: https://github.com/spawar2/GeneSearch
15. Clustering_Analysis_Cancer_Techniques: This project was focused on developing a biomarker tool utilizing clustering techniques: https://github.com/spawar2/Clustering_Analysis_Cancer
16. Electric scooter for overcoming transportation and pollution problems: https://devpost.com/software/ebird Prototype selected for Collegiate Cup Competition and TYE University Competition Qualifying Round 2019 and Entrepreneurship and Innovation Institute (ENI) Mentor Program
17. Random_Forest_Classfication_Renal_Cell_Carcinoma: This project was focused on developing a biomarker tool utilizing random forest: https://github.com/spawar2/Random_Forest_Renal_Cell_Carcinoma
18. COVID19-Temperature-Dashboard: This project was focused on understanding relationship between COVID19-Temperature: https://github.com/spawar2/COVID19-Temperature-Dashboard
19. Regression-Analysis-Alzheimers-Disease: This project was focused on utilizing machine learning tools for feature classification in Alzheimers: https://github.com/spawar2/Regression-Alzheimers-Disease
20. Machine Learning Classification Pulmonary-Embolism-Master: This project was focused on utilizing machine learning tools for feature classification in Embolism: https://github.com/spawar2/Pulmonary-Embolism-Master

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O. Professional Membership:

1. TiE Global International Entrepreneurship: https://tie.org/
2. Georgia State Biology Graduate Student Association (GSU-BGSA): http://sites.gsu.edu/bgsa/about/#.X6GBM1NKj7E
3. Advanced Technology Development Center (ATDC)-Georgia Tech University: https://atdc.org/
4. Western Kentucky University Biograd Association
5. Western Kentucky University Student Government Association (WKU SGA): https://www.wku.edu/sga/
6. Western Kentucky University Graduate Council: https://www.wku.edu/graduatecouncil/
7. Biophysical Society: https://www.biophysics.org/
8. American Chemical Society: https://www.acs.org/content/acs/en.html
9. Institute of Electrical and Electronics Engineers (IEEE): https://ieeexplore.ieee.org/Xplore/home.jsp
10. Sigma Xi, The Scientific Research Honor Society: https://www.sigmaxi.org/home
11. HackerSpace-Free Side Atlanta: https://www.freesideatlanta.org/
12. Kentucky Academy of Science: https://kyscience.org/
13. Academic Society for Functional Foods and Bioactive Compounds (ASFFBC): https://www.functionalfoodscenter.net/
14. American Association for Cancer Research (AACR): https://www.aacr.org/

P. Editorial Board Member and Reviewer:

1. PeerJ: The Journal of Life and Environmental Sciences
2. Journal of Geology and Mining Research
3. African Journal of Agricultural Research
4. Computational Biology and Bioinformatics Research
5. International Journal of Pharmaceutical Research
6. International Journal of Case Reports and Therapeutic Studies
7. Journal of Bacteriology Research
8. International Journal of Educational Administration and Policy Studies
9. AS Medical Sciences
10. International Journal of Science and Technology Education Research
11. MDPI: Microorganisms, International Journal of Molecular Sciences, pathogens, International Journal of Environmental Research and Public Health, Cancers, Chemistry, Toxins, Cells, Antibiotics, Diagnostics, Advances in Engineering, Processes, Molecules, Genes, Coatings
12. Journal of Advances in Biology
13. Current Genomics
14. Educational Research and Review
15. Current Cancer Therapy Reviews
16. Immunology Research and Therapy Journal
17. The Open Biotechnology Journal
18. International Journal of Nursing and Midwifery
19. Journal of Oral Health and Craniofacial Science
20. Computer Science and Programming
21. Epidemiology International Journal (EIJ)
22. Journal of Entomology and Nematology
23. ES Journal of Oncology
24. Dove Medical Press: Clinical Epidemiology
25. Marine Biology and Environmental Science

26. Asian Science Bulletin
27. Journal of Systematic Bioscience and Engineering (SBE)
28. Journal of Nanotechnology and Nano Science Research
29. Network Modeling Analysis in Health Informatics and Bioinformatics (NHIB)
30. Elsevier: Gene Reports, Materials Today Communications, Infection, Genetics and Evolution
31. Future Science OA

Q. Professional Workshops/Symposiums/Certifications Attended:

1. Yale Genetics certification on machine learning for single cell analysis (2020), conducted by Krishnaswamy lab at Yale University, New Haven, CT. (https://www.krishnaswamylab.org/)
2. Southeast Regional Collaborative Access Team meeting (SER-CAT) and SE Enzyme Conference (2017-18), conducted by SER-CAT, Atlanta, GA. (https://petitinstitute.gatech.edu/events/15th-ser-cat-southeast-regional-collaborative-access-team-symposium)
3. Orion: Discovery Environment for HPC Research computing and Bridging XSEDE Resources workshop (2014, 2016), conducted by Semir Sarajlic, Neranjan Edirisinghe, Yuriy Lukinov, Michael Walters, Brock Davis, and Gregori Faroux, Atlanta, GA. (https://portal.xsede.org/course-calendar/-/training-user/class/502/session/1029)
4. DICE - Knowledge base research solutions and python programming workshop (2016), conducted by Semir Sarajlic, and Neranjan Edirisinghe, Atlanta, GA.
5. CITI (Collaborative Institutional Training Initiative) certification: Biomedical (Biomed), Responsible Conduct of Research (RCR), Health Privacy (HIPAA), Conflicts of Interest (COI), Biosafety, Information Security. (https://about.citiprogram.org/en/courses/)
6. XSEDE Regional Workshop hosted by Florida A&M University and Florida State University, Tallahassee, Florida. (https://www.xsede.org/web/xup/course-calendar/-/training-user/class/140)

R. Interesting Seminars Attended (Selected)*:

1. Bioactive and bioadhensive nanomedicine for cancer therapy, Welli Yan, GSU, 2014
2. Development of liver cancer vaccines - preclinical studies, Yukai He, GRU, 2014
3. Bidirectional communication between the brain and adipose tissue, T. Bartness, GSU, 2014
4. Composition and assembly of the outer spore layers of Bacillus anthracis: The more we learn, the less we know, George Stewart, Univ of Missouri, 2014
5. New targets and mechanisms for controlling Herpes Simplex Virus, Deepak Shukla, Univ of Chicago, 2014
6. Gut Microbiota, low-grade inflammation, and metabolic syndrome, Andrew Gewirtz, GSU, 2014
7. The Wiring Diagram for Hunger: Using Neuron-Specific Tools to Discover its Basis, Bradford B. Lowell, Harvard Med Sch, 2014
8. Dendritic release of neuropeptides: A novel form of interpopulation communication in the hypothalamus, Javier Stern, GRU, 2014
9. Stress responses in Bacillus subtilis, John Helmann, Cornell, 2014
10. Synapses to Satiation: Control of food intake through modulation of central vagal afferent endings, Robert Ritter, WSU, 2014
11. Multi-color and viral tools for mapping the zebrafish brain, Albert Pan, GRU, 2014
12. Dopamine neuron activity and the neural control of feeding and body weight, A. Roseberry, GSU, 2014
13. Respiratory microbiota and transmission of respiratory pathogens, Eric Harvill, PSU, 2014
14. Nanosized vectors for liver targeting strategy, H. Laroui, GSU, 2014
15. A multiscale paradigm shift to win the arms race against TB, Nitin Baliga, Institute of Systems Biology, 2015
16. Nicotinamide Riboside as a Tool to Understand Yeast Lifespan and Vertebrate Fat Utilization, Charles Brenner, Univ of Iowa, 2012
17. The Evolutionary Synthesis: Then and Now, Will B. Provine, Cornell, 2012
18. Optimal Brain Health Throughout the Lifespan: How, Why, and Why Not, Mark Mattson, NIH, 2012
19. Auditory cortical responses to spectrally degraded sounds: Human intracranial electrophysiology studies, Kirill Nourski, Univ of Iowa, 2012
20. Innate immune responses to Leishmania, Mary Wilson, Univ of Iowa, 2012
21. The molecular and cellular basis of embryonic morphogenesis, John Wallingford, University of Texas, 2012
22. Mechanisms that regulate meiotic development, Ed Winter, Thomas Jefferson U, 2012
23. Generation of human neurons by microRNA-mediated reprogramming of fibroblasts, Andrew Yoo, Wash. U, 2012
24. Impact of whole genome duplications on evolution in the mustard family, J. Chris Pires, University of Missouri, 2012
25. Mechanisms underlying the diversification of life histories, Dan Hahn, Univ of Florida, 2012
26. Using molecular markers to investigate invasive Rubus and genetic diversity of Miscanthus, Lindsay Clark, University of Illinois, 2012
27. Retrospective stable isotope analysis reveals ecosystem-wide effects of river regulation over the last century, Tom Turner, University of New Mexico, 2012
28. COVID community action summit (C-CAS), (https://necsi.edu/c-cas), New England Complex Systems Institute, 2020
29. Global Burden of Disease (GBD) consultations on congenital heart diseases, COVID-19, mortality, child growth, thyroid disease, heart failure, NO2 pollution, and road injuries, The Institute for Health Metrics and Evaluation (IHME) (http://www.healthdata.org/), University of Washington, 2020
30. Biology at true resolution (https://medicine.yale.edu/event/60563/), Yale Center for Genome Analysis and 10X Genomics, 2019

S. Outreach via News Articles and Interviews:

1. “CHEST-AI: AI tool for detection of lung diseases from chest X- ray data”: *https://medium.com/tsai-city/kickstarting-healthcare-innovation-with-the-rothberg-catalyzer-prototype-fund-6f5a1f37c5c2*

2. “RodentSQL: a software suite for colony management of animal protocols”: Future Medicine’s Video Journal of Biomedicine: In this Publication Perspective, lead author Shrikant Pawar, Yale Center for Genome Analysis, Yale University, USA, provides a summary of the article ‘RodentSQL: a software suite for colony management of animal protocols’ published in Future Science OA that discusses a new database application, RodentSQL, an open access software for colony management in the laboratory: *https://www.biomedicine.video/methods-technologies/rodentsql-software-suite-animal-protocols*

T. Individual Student Guidance:

1. Ms. Krishna Patel, BDS, MHA: Masters student at Western Kentucky University, Kentucky, USA. Project: Impact of lockdown measure on COVID-19 incidence and mortality in the top 31 Countries of the World.
2. Ms. Mamata Chaudhari, MPH: Masters student at Western Kentucky University, Kentucky, USA. Project: Effects of temperature on COVID-19 transmission.
3. Ms. Durga Rayudu, MBBS: Department of Surgery, NTR University, AP, India. Project: Effects of temperature on COVID-19 transmission.
4. Mr. Suraj Kumar, Undergraduate student: Indian Institute of Technology (IIT), Kharagpur, India. Project: CHEST-AI: AI tool for detection of lung diseases from chest X- ray data.

U. Courses Taught:

Serial No.	***Semester’s***	***Year***	***Course No***	***University***	***Student No***
1.	Spring, Summer, Fall	2010	121	Western Kentucky University	25/class
2.	Spring, Summer, Fall	2011	114	Western Kentucky University	25/class
3.	Spring, Summer	2012	114	Western Kentucky University	25/class
4.	Spring, Fall	2014	1103	Georgia State University	30/class
5.	Spring, Fall	2015	1103	Georgia State University	30/class
6.	Spring, Fall	2016	1103	Georgia State University	30/class
7.	Spring, Fall	2017	1103	Georgia State University	30/class
8	Spring	2018	1103	Georgia State University	30/class
9.	Fall	2018	6900	Georgia State University	9/class

V. Leadership with Relevant Honors:

1. 2010: Graduate council representative from College of Health and Human Services, Western Kentucky University, Kentucky, USA.
2. 2010: International student representative, Student Government Association, College of Health and Human Services senate, Western Kentucky University, Kentucky, USA.
3. 2018-19: Technical Chair: Georgia State Biology Graduate Student Association (GSU-BGSA), http://sites.gsu.edu/bgsa/committee-2018-2019/#.X8fkkxNKj7E
4. 2021: Keynote speaker and general chair, 4th International Conference on Applied Mathematics and Simulation 2021, http://www.4th-amms.org/com.html

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W. Public and Community Service:

1. 2003-2009: Active member of National Social Services (NSS), whereby leaded a group of 25 students.
2. 2010-2011: Volunteered as a worker for Bowling Green International Festival (BGIF), Bowling Green, Kentucky.
3. 2009-2010: Participated in a teaching program at Juvenile Detention Center (JDC) in Bowling Green, Kentucky.
4. 2009-2010: Volunteered for new student orientation at International Student Services (ISSS), Western Kentucky University, Bowling Green, Kentucky.
5. 2005: Optimum diabetes workshop, Department of medicine, Lokmanya hospital, India.

X. References:

Available on request.

**Full list of publications and conference proceedings can be found at the author's university and LinkedIn webpage.*