

Vishal Sharma

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✉ Email: vishalusu@gmail.com
• Website • Profile • Github • Kaggle • Quora

EDUCATION **Postdoctoral Research Fellow - Harvard Ophthalmology AI Lab** 2021 - 2022
✂ TRAINING Harvard Medical School/MEEI, Massachusetts, USA
Mentor: Mengyu Wang, PhD (Assistant Professor, Harvard Medical School/MEEI)

Doctor of Philosophy, Computer Science 2016 - 2021 | 4.0
Utah State University, Utah, USA
Dissertation: Deep Learning Data and Indexes in a Database (over 1,500 downloads)
Mentor: Curtis Dyreson, PhD (Professor)

Master of Science, Computer Science 2012 - 2014 | 3.91
Utah State University, Utah, USA
Thesis: MultiverseJava<temporal>: Programming Databases with Interesting Values
Mentor: Curtis Dyreson, PhD (Professor)

Bachelors of Technology, Computer Science and Engineering 2006 - 2010 | 8.24
SRM Institute of Science and Technology, India (ranked 13 by the Ministry of Education, 2024)
First Class with Distinction (formerly SRM University)

ACADEMIC **Asst. Prof. TT, Big Data Science - University of Nevada, Las Vegas** Feb 2024 - July 2026
APPOINTMENT • Part of campus-wide cluster hire. Proposed and prepared Data Science for Healthcare track courses and part of a certificate program for Healthcare Information Technology
• Teaching: (i) Data Mining for Healthcare (rating 4.67/5) (ii) AI for Healthcare (4.35/5)

Asst. Prof. TT, Computer Science - New York Institute of Technology (NYIT) Sept 2023 - Jan 2024
• Teaching: (i) Introduction to Data Mining (rating 4.8/5) (ii) Database Systems (rating 4.5/5)

Research Associate/Scientist - Cincinnati Children's Oct 2022 - Dec 2022
• Digital pathology modeling to predict treatment response for inflammatory bowel disease
• Leadership: Mentoring a group of students consisting Masters and PhD

TEACHING	2025	Instructor (4.67/5)	Ph.D. & Masters	Data Mining for Healthcare
EXPERIENCE	2025	Instructor (4.35/5)	Ph.D. & Masters	Artificial Intelligence for Healthcare
	2024	Instructor (4.41/5)	Ph.D. & Masters	Data Mining for Healthcare
	2023	Instructor (4.5/5)	Ph.D. & Masters	Database Systems
	2023	Instructor (4.8/5)	Masters & UG	Introduction to Data Mining

GRANTS **NSF ART** - Virtual Reality (VR) Accelerated Ophthalmology (under preparation)
PREPARATION **NSF CAREER** - Framework to Support The Process of Discovery (under preparation)
NIH R01 - Quantifying the impacts of social media on global mental health (under preparation)

PROFESSIONAL **Research Intern - Intel, USA** Summer 2019
EXPERIENCE • Derivative-free combinatorial optimization with meta-heuristics
• An optimization algorithm overlapping genetic algorithm and particle swarm
• Mentor: Don Kent (Senior Manager Data Science)

Data Scientist Intern - IM Flash (Intel-Micron), USA Summer 2018
• Convolution Neural Network based real-time silicon wafer defect detection with 87% in production accuracy
• Mentor: Pradeep Ramachandran (Senior Member of Technical Staff)

Senior Software Engineer - InMoment, USA

Mar 2015 - April 2016

- Full-Stack engineer on feedback listening framework, cloud-based customer experience (CX) platform
- Real-time feedback listening using Natural Language Processing (NLP) techniques
- Immense experience working on large datasets and using big data technologies

Software Engineer - McAfee, USA

Sept 2014 - Mar 2015

- Anomaly detection using density-based spatial clustering of applications with noise (DBSCAN)
- Designing and building a Correlation-Engine (CE) powered with NLP techniques for extracting security incidents from various logs

Asst. System Engineer/Role: Software Engineer - Tata Consultancy Services, INDIA

Sept 2010 - July 2012

- Key role in performance improvement by refactoring bad performing code, database queries, and stored procedures with significant performance improvement for *The Nielson Company*

PUBLICATIONS/ABSTRACTS/POSTERS/PRE-PRINT/GITHUB

- [26] **A Framework to Unify Lost Knowledge**
Vishal Sharma
World Academy of Science, Engineering and Technology (WASET), 2026
- [25] **The Metadata Impedance Mismatch between Databases and Programming Languages**
Vishal Sharma, Curtis Dyreson
34th Conference on Information and Knowledge Management, CIKM, 2025
- [24] **Reproducibility Report for ACM SIGMOD 2024 Paper: “Temporal JSON Keyword Search”**
Chenhao Ma, Junchang Wang, Curtis Dyreson, Amani Shatwani, Sourav S Bhowmick, Vishal Sharma
50th ACM International Conference on Management of Data, Reproducibility Reports of the 2024 International Conference on Management of Data, 2024
- [23] **Temporal JSON Keyword Search**
Curtis Dyreson, Amani Shatwani, Sourav S Bhowmick, Vishal Sharma
★ Awards: *Artifact Received, Artifact Evaluated and Results Reproduced*
50th ACM International Conference on Management of Data, SIGMOD, 2024
- [22] **Artifact-Tolerant Clustering-Guided Contrastive Embedding Learning for Ophthalmic Images**
Min Shi, Anagha Lokhande, Mojtaba S Fazli, Vishal Sharma, Yu Tian, Yan Luo, Louis R Pasquale, Tobias Elze, Michael V Boland, Nazlee Zebardast, David S Friedman, Lucy Q Shen, Mengyu Wang
IEEE Journal of Biomedical and Health Informatics, 2023 (IF: 7.1)
- [21] **Indexer++: Workload-Aware Online Index Tuning with Transformers and Reinforcement Learning**
Vishal Sharma, Curtis Dyreson
37th ACM SIGAPP Symposium on Applied Computing, SAC, 2022 (AR: 22%)
- [20] **PyVisualFields: A Python Package for Visual Field Analysis**
Mohammad Eslami, Saber Kazeminasab, Vishal Sharma, Yangjiani Li, Mojtaba Fazli, Mengyu Wang, Nazlee Zebardast, and Tobias Elze
Translational Vision Science & Technology, TVST, ARVO, 2022 (IF: 3.28)
- [19] **Mantis: Multiple Type and Attribute Index Selection using Deep Reinforcement Learning**
Vishal Sharma, Curtis Dyreson, Nicholas Flann
25th ACM International Database Engineering & Applications Symposium, IDEAS 2021 (AR: 28%)
- [18] **Popularity vs Quality: Analyzing and Predicting the Success of Highly Rated Crowdfunded Projects on Amazon**
Vishal Sharma, Kyumin Lee, Curtis Dyreson
Springer Nature Computing, 2021 (IF: 3.7)
- [17] **Automating and Analyzing Whole-Farm Carbon Models**
Aditi Maheshwari, Curtis Dyreson, Jennifer Reeve, Vishal Sharma, Anthony Whaley
7th IEEE International Conference on Data Science and Analytics, DSAA 2020 (AR: 27%)
- [16] **Covid-19 Screening Using Residual Attention Network an Artificial Intelligence Approach**
Vishal Sharma, Curtis Dyreson
19th IEEE International Conference on Machine Learning and Applications, ICMLA 2020 (AR: 25%)

- [15] **LinkSocial: Linking User Profiles Across Multiple Social Media Platforms**
Vishal Sharma, Curtis Dyreson
 8th *IEEE International Conference on Big Knowledge, ICBK (in conjunction with ICDM)* 2018 (AR: 27%)
- [14] **Predicting Highly Rated Crowdfunded Products**
Vishal Sharma, Kyumin Lee
 10th *IEEE/ACM Advances in Social Networks Analysis and Mining, ASONAM* 2018 (AR: 16%)
- [13] **Recommending Prime Spots of a Destination and Time to Visit from Geo-tagged Social Data**
Vishal Sharma, Kyumin Lee, Jinwook Chung
 10th *IEEE International Conference on Collaborative Computing: Networking, Applications and Worksharing, CollaborateCom* 2014 (AR: 28%)
- [12] **Supporting data aspects in pig latin**
 Curtis Dyreson, Omar U. Florez, Akshay Thakre, Vishal Sharma
 12th *ACM Aspect-oriented Software Development, AOSD* 2013 (AR: 25%)
- [11] **The Multiverse Programming Paradigm: Programming with Values Annotated with Metadata,**
Vishal Sharma,
 Graduate Research Symposium. Paper 87. <https://digitalcommons.usu.edu/grs/87>, (2014).
- [10] **Role of generative artificial intelligence (AI) in generating course design and curriculum in dental public health**
 Jyoti Mago, Vishal Sharma, Manoj Sharma
American Public Health Association, APHA, 2024
- [9] **Role of generative artificial intelligence (AI) in oral health**
 Jyoti Mago, Vishal Sharma, Manoj Sharma
American Public Health Association, APHA, 2024
- [8] **Entity and Relation Identification in Unstructured Endoscopy Reports**
 Nicholas Denson, Judith W Dexheimer, Julia Smith, Ryan Murphy, Vishal Sharma, Liu Xiaoxuan, Surya Prasath, Yizhao Ni, James Reigle, and Jasbir Dhaliwal
 ★ *Poster of Distinction, Digestive Disease Week, DDW*, 2023 (IF : 3.49)
- [7] **A Deep Autoencoder Model to Denoise Visual Fields in Glaucoma**
Vishal Sharma, Lucy Q Shen, Louis Pasquale, Tobias Elze, Michael V Boland, Sarah R Wellik, Gustavo De Moraes, Jonathan S Myers, Siamak Yousefi, Mengyu Wang
 ★ *Association for Research in Vision and Ophthalmology (ARVO) foundation travel grant, Denver, CO, 2022 (IF: 2.39)*
- [6] **A Python Collection of Tools for Analyzing Visual Fields**
 Saber Kazeminasab, Mohammad Eslami, Yangjiani Li, Mojtaba Fazli, Vishal Sharma, Mengyu Wang, Nazlee Zebardast, Tobias Elze
Association for Research in Vision and Ophthalmology, ARVO 2022 (IF: 2.39)
- [5] **Evaluation of Deep Learning Visual Field Prediction Models for Clinical Relevance**
 Mohammad Eslami, Miao Zhang, Julia Kim, Dolly Chang, Yangjiani Li, Saber Kazeminasab, Mojtaba Fazli, Vishal Sharma, Michael Boland, Nazlee Zebardast, Mengyu Wang, Tobias Elze
Association for Research in Vision and Ophthalmology, ARVO 2022 (IF: 2.39)
- [4] **Glaucomatous Progressive Retinal Nerve Fiber Layer Thinning and Its Association With Patient Race**
 Qingying Jin, Omar Halawa, Yangjiani Li, Mohammad Eslami, Saber Kazeminasab, Mojtaba Fazli, Vishal Sharma, Nazlee Zebardast, Mengyu Wang, Tobias Elze
Association for Research in Vision and Ophthalmology, ARVO 2022 (IF: 2.39)
- [3] **The Impact of Race on the Relationship Between Cup-To-Disc Ratio and Glaucomatous VF Los**
 Pingping Zhao, Yangjiani Li, Mohammad Eslami, Saber Kazeminasab, Mojtaba Fazli, Vishal Sharma, Omar Halawa, Nazlee Zebardast, Mengyu Wang, Tobias Elze
Association for Research in Vision and Ophthalmology, ARVO 2022 (IF: 2.39)
- [2] **Speaker Diarization: Using Recurrent Neural Networks**
Vishal Sharma, Zekun Zhang, Zachary Neubert, Curtis Dyreson
[arXiv:2006.05596](https://arxiv.org/abs/2006.05596), *preprint*, Github 2020

- [1] **Multi Class Audio Classification Using Multi Layer Perceptron and Convolution Neural Network**
Vishal Sharma
<https://doi.org/10.5281/zenodo.3988690>, [Github](#) , 2020

INVITED RESEARCH PRESENTATIONS	2025	ACM International Conference on Information and Knowledge Management, CIKM, 2025, Seoul, Korea	
	2022	ACM SIGAPP Symposium On Applied Computing (SAC), Czech Republic	
	2021	ACM International Database Engineering & Applications Symposium (IDEAS), Montreal	
	2020	IEEE International Conference on Machine Learning and Applications (ICMLA), Miami	
	2018	IEEE International Conference on Big Knowledge (ICBK/ICDM), Singapore	
	2018	IEEE International Conference on Advances in Social Networks Analysis & Mining (ASONAM), Barcelona	
TOOLS	Programming	Python, Java, C/C++, R	
	Data Preprocessing	OpenCV, NLTK, HuggingFace, spaCy, NetworkX	
	Data Visualization	Matplotlib, Plotly, ggplot2, seaborn, Orange, bigvis, Graphviz	
	Machine Learning	Scikit-learn, Weka	
	Deep Learning	TensorFlow, tflearn, Keras, Pytorch	
	Reinforcement Learning	OpenAI Gym, Ray RLlib, Keras-rl	
	Web Crawling	Scrapy, Selenium, Beautiful Soup	
	Databases	MySQL, PostgreSQL, MongoDB	
	Big Data	Elasticsearch, Kibana, Apache Pig, Apache Hadoop, Apache Spark, Apache Airflow	
	Open-source Contribution	tflearn , facebook/nevergrad , facebook/dime , aikorea/awesome-rl	
PATENT	Misc	L ^A T _E X, Shell, Git, Inkscape	
	Methods to Denoise Visual Fields in Glaucoma	<i>Inventors: Mengyu Wang, Vishal Sharma, Tobias Elze</i> <i>(expired) U.S. Provisional Patent Application 63/335,125 (2022)</i>	
CERTIFICATION	2011	Oracle Certified Java Professional SE 1.6	
	2010	The Council of Research and Development, Ducat Certified .NET Developer	
	2009	Valedictorian Certificate in Network Management & Ethical Hacking, Nettech	
ACADEMIC SERVICE & LEADERSHIP	2025	Reviewer	Int'l Journal of Software Engineering and Knowledge Engineering
	2025	Technical PC	11 th International Conference on Human and Social Analytics
	2024	Technical PC	10 th International Conference on Human and Social Analytics
	2023	Technical PC	9 th International Conference on Human and Social Analytics
	2022	Reviewer	Review of Hypermedia and Multimedia (NRHM)
	2022	Technical PC	8 th International Conference on Human and Social Analytics
	2021	Program Committee	IEEE BIBM Artificial Intelligence Techniques for BioMedicine and Health
	2021	Technical PC	7 th International Conference on Human and Social Analytics
	2020	Program Committee	IJCAI Artificial Intelligence in Affective Computing (AffComp)
	2020	Program Committee	IEEE BIBM Artificial Intelligence Techniques for BioMedicine and Health
	2020	Program Committee	IEEE BIBM Artificial Intelligence & Big Data vs Pandemics
	2020	Technical PC	6 th International Conference on Human and Social Analytics
	2019	Technical PC	5 th International Conference on Human and Social Analytics
	2018	Session Chair	ACM/IEEE ASONAM
	2014	Student Volunteer	ACM SIGMOD

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