

Piyush Vyas

1001 Leadership Place
Killeen, TX 76549

*AMCIS 2021 Best Paper Award
* 2017 Star Faculty Award
*2016 Excellent Teacher Award
*Member of AIS, DSI and IACIS

Objective

Intend to build a career in a renowned educational society in a hi-tech environment with committed & dedicated professionals that provide excellent opportunities for teaching and research in Information Systems, Healthcare informatics, Machine Learning, Data Analytics, and Deep Learning.

Brief

Experience: 8 years of Teaching, Research, and Service.
Publications: 11 Peer-reviewed Conferences and 6 peer-reviewed Journals.
Projects: In total, 9 Technical projects on Data Mining, Text Mining, Soft Computing, ML, TL, NLP & Statistics

Education

Ph.D. Information Systems Specialization: Analytics and Decision Support (ABD) College of Business and Information Systems, Dakota State University, Madison SD USA	Aug 2018 – May 2022 (Expected) GPA 4.0
MS Information Systems Specialization: Healthcare Information Systems College of Business and Information Systems, Dakota State University, Madison SD USA	Aug 2018 – May 2020 GPA 4.0
ME Information Technology Specialization: Data Mining & Soft Computing SVITS, Indore MP, India	July 2010 – Dec 2012 CGPA 7.4
BE Information Technology JIT, Khargone MP, India	July 2005 – June 2009 Percentage 70%

Technical Skills

Languages: Python (Pandas, Scikit-Learn, NumPy, Keras, TensorFlow, Seaborn, Matplotlib), R, SAS Base, Java, SQL.
Databases: MySQL Workbench, SQLite, Oracle 11g
Analytical Tools: MS Excel, Tableau, MS Project, IBM Cognos
Statistical Tools: AMOS, SEM, SmartPLS, Minitab
Analytical skills: Data Preprocessing (cleaning and wrangling), Visualization (EDA), Supervised/Unsupervised ML Modeling, Dimensionality Reduction, Text Mining, NLP, Medical Imaging, Content Analysis (Atlas TI), Weka.
Web Technologies: HTML, CSS, JavaScript
Operating Systems: Ubuntu, All Windows
SEO Techniques: Off Page SEO & On page SEO.

Experience

1. Dakota State University, Madison SD USA College of Business and Information Systems	Aug 2018 – Current 3+ Years
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1. Teaching

Instructor

CIS 484	Database Management Systems (UG) On Campus with 22 Class Size Teaching Effectiveness: Ongoing	Fall 2021
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Teaching Assistant

Supervisor: Dr. Insu Park BADM 476	Marketing Research (UG) Hybrid with 25 Class Size	Fall 2020
INFS 750	IT Infrastructure, Technology, and Network Management (Grad) Hybrid/On campus/online with Variable Class Sizes	Spring / Summer 2018-2020

INFS 756	Cloud Computing (Grad) Online & On-campus with Variable Class Sizes	Fall 2018-2019
INFS 810	Qualitative Research Methodology (Ph.D. IS) Online & On campus with Variable class sizes	Fall 2018-2021

2. Research

Research Collaboration with IS and Computer Science professors to publish in Conferences and Journals such as IEEE Transactions on Technology and Society, IIS, AMCIS, HICSS, DSI, IACIS, and MWAIS. (See Publications)

3. Services

- Technical Staff Volunteered AMCIS 2021
- Volunteered DSU GRI 2021
- Reviewer of HICSS 2021-2022 (in total 7 reviews),
- Reviewer of ICIS 2020 (1 review).
- Reviewer of AMCIS 2020-2021 (in total 2 reviews),
- Reviewer of MWAIS 2019-2021(in total 2 reviews),
- Reviewer of IACIS 2021(1 review).

2. IIST, Indore, MP INDIA

1. Teaching

Assistant Professor | Information Technology

IIST, Indore, MP India | affiliated by RGPV Bhopal MP India

Average Class Size: 60

Database Management Systems (UG)	Alternate Fall
Advance Database Management Systems (UG)	Alternate Fall
Data Mining and Data Warehouse (UG) (Grad)	Alternate Fall
Object Oriented Programing (UG)	Alternate Fall
Core JAVA (UG)	Alternate Fall
Object Oriented Analysis and Design (UG)	Alternate Fall
Information theory and coding (Grad)	Alternate Spring
Software Engineering (Grad)	Alternate Spring
Web Technology (UG)(Grad)	Alternate Spring
Principle of programming (UG)	Alternate Spring

Feb 2013 – July 2018
5+ Years

Feb 2013 – July 2018

2. Research

Research Collaboration with IT and Computer Science Colleagues to publish in Conferences and Journals such as IJCA 2012, IEEE ICMIRA 2013, IEEE ICICCI 2017 and IJCSIT 2014. (See Publications)

3. Services

- ERP Coordinator
- Admissions Counselor
- Annual Tech-fest Coordinator
- Research Workshops and Seminar Coordinator
- Class Schedule Coordinator

Publications

Peer-Reviewed Journal

- J1 **Vyas, Piyush**, Reisslein, M., Rimal, B. P., Vyas, G., Basyal, G. P., & Muzumdar, P. (2021). Automated Classification of Societal Sentiments on Twitter with Machine Learning. *IEEE Transactions on Technology and Society*, 1–1. <https://doi.org/10.1109/TTS.2021.3108963>.
- J2 **Vyas, P.**, Vyas, G., & Liu, J., (2021). Proliferation of health misinformation on social media platforms: a systematic literature review. *Issues in Information Systems*, 22(1). (**Forthcoming**)

- J3 Muzumdar, P., Basyal, G. P., & **Vyas, P.** (2021). Moderating Effects of Retail Operations and Hard-Sell Sales Techniques on Salesperson's Interpersonal Skills and Customer Repurchase Intention. *Journal of Management Research*, 13(1), 21-42.
- J4 Muzumdar, P., Basyal, G. P., & **Vyas, P.** (2020). Antecedents of Student Retention: A Predictive Modelling Approach. *Muzumdar, P., Basyal, GP, & Vyas, P.(2020). International Journal of Contemporary Research and Review*, 11(11), 21906-21913.
- J5 Sawlani, S., & **Vyas, P.** (2014). Problem Solving Strategy for Decision Making in Market Basket Analysis. *International Journal of Computer Science and Information Technologies*, 5(6), 8106-8109.
- J6 **Piyush Vyas** and Jigyasu Dubey. Article: An Efficient Methodological Study for Optimization of Negative Association Rule Mining. *IJCA Proceedings on International Conference on Recent Trends in Information Technology and Computer Science 2012 ICRTITCS* (3):27-31, February 2013.

Peer-Reviewed Conferences Proceedings and presentations

- C1 Basyal G.P., **Vyas, P.** and Bishop, D. "The application of Natural Language Processing as tool for Knowledge Extraction for COVID:19." *In Proceedings of the 52nd Decision Sciences Institute Annual Conference Online. 2021 (Forthcoming)*.
- C2 **Vyas, Piyush;** Liu, Jun; and El-Gayar, Omar, "Fake News Detection on the Web: An LSTM-based Approach" (2021). *AMCIS 2021 Proceedings. 5. Best Paper Award*
- C3 **Vyas, Piyush;** Liu, Jun; and Chauhan, Akhilesh, "An LSTM Based Approach for the Classification of Customer Reviews: An Exploratory Study". *AMCIS 2021 Proceedings.5.*
- C4 **Vyas, Piyush;** Bojja, Giridhar Reddy; Ambati, Loknath Sai; Liu, Jun; and Ofori, Martinson, "Prediction of Patient Willingness to Recommend Hospital: A Machine Learning-Based Exploratory Study" (2021). *AMCIS 2021 Proceedings.26.*
- C5 **Vyas, Piyush;** Ambati, Loknath Sai; Bojja, Giridhar Reddy; and Vyas, Gitika, "Utilizing Timely and Preventive Care Measures to Predict Patient's Response for Hospital Recommendation" (2021). *MWAIS 2021 Proceedings. 25.*
- C6 **Vyas, Piyush;** Ragothaman, Kaushik; Chauhan, Akhilesh; and Rimal, Bhaskar, "Classification of COVID-19 Cases: An Exploratory Study by Incorporating Transfer Learning with Cloud" (2021). *MWAIS 2021 Proceedings. 8.*
- C7 Ambati, Loknath Sai; Bojja, Giridhar Reddy; Gorugantu, Laxmi Manasa; and **Vyas, Piyush,** "Impact of Healthcare Information Technology (HIT) on Chronic Disease Conditions" (2021). *MWAIS 2021 Proceedings. 17.*
- C8 **Vyas, Piyush** and El-Gayar, Omar, "Credibility Analysis of News on Twitter using LSTM: An exploratory study" (2020). *AMCIS 2020 Proceedings. 17.*
- C9 **Vyas, Piyush** and Liu, Jun, "Credibility Analysis of Customer Reviews on Amazon: A Design Science Approach" (2020). *AMCIS 2020 TREOs. 23.*
- C10 **Vyas, P.,** Nagdiya, A. " Decision making system through modified GA and ARM in Retail sector ", In Proc 2017 *IEEE International Conference on Innovations in Control, Communication and Information Systems (ICICCI)*, 2017.
- C11 **Vyas, P.,** & Chauhan, A. (2013, December). Comparative optimization of efficient association rule mining through PSO and GA. In *2013 International Conference on Machine Intelligence and Research Advancement* (pp. 258-263). IEEE. pp. 258-263.

Projects

NLP / Machine Learning / Deep Learning | Python, Weka, SQL

- P1 Fake News Detection: Developed an LSTM based deep neural network by incorporating Keras, TensorFlow, nltk, pandas, NumPy python libraries. Pheme fake news data has been used, and news tweets were extracted from multiple

JSON files. Detailed EDA, text preprocessing, modeling, hyperparameter tuning has been performed and a report was published in the renowned AIS conference.

- P2 Fake Review Detection: Extracted the semantics, syntactic, POS and writing style textual features from the Yelp customer review dataset and rigorous text preprocessing, EDA has been performed. Various supervised Machine learning algorithms have been with cross-validation and parameter tuning to get the optimum prediction results.
- P3 COVID19 Sentiment analysis: A rule-based VADER technique has been used to extract the multiclass people's sentiments (positive, negative neutral) to assess the social outcry during COVID19. #covid19 related tweets were utilized over a month period and text preprocessing, EDA, was performed prior to sentiment analysis.
- P4 Topic Modeling for COVID19 tweets: Utilized open-source Kaggle COVID19 tweet data to extract the various topics to study the societal concerns. After text preprocessing, LDA has been applied by tuning the perplexity and coherence scores to get the best topics.
- P5 Customized DCNN and TL modeling for COVID19 chest Xray Images: A lightweight DCNN architecture was developed with randomized weights to detect the positive COVID19 cases based on the real-time patient's chest Xray images. Image processing and augmentation has been performed before applying DCNN and further comparison has been conducted with Transfer learning models such as ResNet50, Efficient Net, InceptionV3, Dense Net and VGG16.
- P6 Patient response prediction: Multiple data sources have been collected from the CMS portal and filtered, joined by applying SQL before data cleaning and missing value imputation. ML regression techniques were used with cross-validation to predict the future patient responses to recommend the hospitals based on primary care, preventive care, quality measures, and provider communication.

Statistical / Hypothesis Testing | R, SmartPLS, SQL

- P7 Relationship between timely and effective care, patient responses, and hospital recommendation: A simple linear regression has been performed to check the Relationship between patient timely & effective care and patient response to hospital recommendation. Various open-source datasets have been collected from CMS, and further hypothesis building & testing have been performed by using statistical measures.
- P8 Factor that encourages users to proliferate health misinformation: Building structure model to test the hypothesis based on identified factors that influence the tweeter user to share the health misinformation. As the potential Twitter users, a survey of university students has been conducted to gather the demographics and misinformation sharing data. Further CFA was applied to test the identified construct after data cleaning, outlier detection and missing value imputation. A Measurement modeling was converted into SEM that was further Validated by statistical measures, and reliability & hypothesis testing have been performed.

Soft Computing and Data Mining | MATLAB, SQL

- P9 Association Rule Mining through Modified Genetic Algorithm: A customized fitness function has been implemented in standard GA to optimize the results of generating association rules for market basket analysis. Apriori algorithm used on standard MS SQLServer market basket transaction dataset to get the frequent patterns of items that further optimized by the applying customized GA on MATLAB.

Professional Trainings and Memberships

- Active Member of Association of Information Systems (AIS).
- Active Member of Decision Science Institution (DSI).
- Active Member of International Association for Computer Information Systems (IACIS).
- Attended CTL at DSU on Crimson Hexagon, Blackboard usage, and Video lecture transcription.
- Attended FDP from MICROSOFT over MICROSOFT AZURE camp.
- Participated in workshop on HADOOP Big data by IIT Delhi.
- Participated in workshop on Nano Technology.
- Participated in a workshop on LINUX conducted by REDHAT.
- Seminar on Internet on things.
- Seminar on Software Testing.
- Visited RRCAT, Indore which deals with production of scientific instruments.

Award and Honors:

- Best Complete Research Paper Award at AMCIS 2021.
- Runner up of AT&T Hackathon 2020 at DSU.
- Honored by Homecoming King 2020 at DSU.
- Honored by Star Faculty Award by IIST Indore in 2017
- Honored by Excellent Teacher Award for DBMS and PPL by NGO SRIJAN in 2016.
- Three times consistent winner in Distt. Level Debate Competition 2000 - 2003.
- High School Student President 2002-2003.

Apart from Academics

- Took part in numerous debate Competitions during School and College Life.
- Member of college Volleyball Team and Cricket team.
- Took part in various quizzes held on college as well as school level.
- Organizer of the College technical fest.
- Hosted many college programs as Lead Anchor.