

# Dr. Harshvardhan

Assistant Professor, IS & Analytics

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## Education

- Aug 2021 – **PhD in Business Analytics**  
May 2025 University of Tennessee, Knoxville, USA  
Dissertation Title: *From Data to Decisions: Enterprise Demand Forecasting with Machine Learning*  
Advisor: Dr. Chuanren (Charles) Liu
- Jul 2019 – **Master of Business Administration (MBA)**  
Apr 2021 Indian Institute of Management, Indore, India
- Jan 2019 – **International Exchange (ERASMUS+ Scholar)**  
Jun 2019 University of Latvia, Rīga, Latvia
- Aug 2016 – **Bachelor of Arts (Foundations of Management)**  
Jun 2019 Indian Institute of Management, Indore, India

## Work Experience

- Aug 2025 – **Assistant Professor, Information Systems & Analytics**, American University of Sharjah, UAE  
Present
  - Teaching information systems and analytics courses to undergraduates and graduate students.
  - Conducting research in machine learning, artificial intelligence applications and applied analytics.
- Aug 2021 – **Graduate Assistant**, University of Tennessee, Knoxville, TN, USA  
May 2025
  - Primary instructor for STAT 201 (Introductory Statistics), 115+ students.
  - Recipient of UT Graduate Fellowship; Top-12 in 3-Minute Thesis Competition.
- May 2022 – **Data Science Intern**, HP Inc., Vancouver, WA, USA  
Aug 2023
  - Developed ML models for global print product forecasting, improving accuracy by 30%.
  - Enhanced production pipelines for scalable deployment of analytical models through MLOps.
- Apr 2021 – **Analyst**, Aspect Ratio (Merck Global Centre), Pune, India  
Jun 2021
  - Built forecasting models for vaccine demand across EU and US markets.
- Apr 2021 – **Developer (Pro bono)**, Asar for India, Remote, <https://www.harsh17.in/shiny-urca/>  
Jun 2021
  - Created R Shiny dashboard to aggregate and export global population data.
- May 2020 – **MBA Intern, Retail**, Tata Consultancy Services, Chennai, India  
Jul 2020
  - Analyzed retail value chains and omnichannel strategies for Indian retailers.
- May 2018 – **Research Intern**, Indian Institute of Management, Indore, India  
Jun 2019
  - Researched Gaussian correlation structures to address near-singularity issues.

## Research Interests

- Broad Areas Machine Learning, Deep Learning, Forecasting, Optimization, Data Science
- Specific Topics
  - Predictive Optimization: Integrating machine learning forecasts into operational and strategic decision-making.
  - Generative AI and Large Language Models: Applications in education, analytics, and human-AI collaboration.
  - Scalable Forecasting Systems: Leveraging MLOps for enterprise-level demand and supply chain forecasting.

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## Publications

- 2025 **Harshvardhan, M.**, Curtland, C., Hwang, J., VanDam, C., Ghozeil, A., Neto, P. A., Marie, F., Liu, C. (2025). "Print Demand Forecasting with Machine Learning at HP Inc.". *INFORMS Journal of Applied Analytics*. [DOI]
- 2025 **Harshvardhan, M.**, Curtland, C., Ghozeil, A., Liu, C. (2025). "Enterprise-Scale Machine Learning for Demand Forecasting.". *Foresight: The International Journal of Applied Forecasting*. [RePEc]
- 2023 Mao, W., Liu, C., Huang, Y., Zu, Z., **Harshvardhan, M.**, Wang, L., Zheng, B. (2023). "End-to-End Inventory Prediction and Contract Allocation for Guaranteed Delivery Advertising". In *Proceedings of the 29th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD '23)*, August 6–10, 2023, Long Beach, CA, USA. [DOI]
- 2022 Ranjan, P., **Harshvardhan, M.** (2022). "The Evolution of Dynamic Gaussian Process Model with Applications to Malaria Vaccine Coverage Prediction". In Hanagal, D. D., Latpatel, R. V., Chandra, G. (Eds.), *Applied Statistical Methods: ISGES 2020*. Springer. Singapore.[DOI]
- 2021 **Harshvardhan, M.**, Kumar, B. (2021). "Invento Robotics: Launching Humanoid Robots". Case Study and Teaching Note. *Ivey Publishing*. [The Case Centre]
- 2019 **Harshvardhan, M.**, Ranjan, P. (2019). "Statistical Modelling and Analysis of the Computer-Simulated Datasets". In Gupta, B., Agrawal, D. (Eds.), *Handbook of Research on Cloud Computing and Big Data Applications in IoT* (pp. 202-228). Hershey, PA: IGI Global. [DOI]

### Working Papers

- 2025 C. Reed & **M. Harshvardhan**. "Determining E-commerce Strategies among U.S. Grocery Stores." Under revision at *Applied Geography*.
- 2024 **M. Harshvardhan**, Y. Qu & C. Liu. "Predictive Optimization in Supply Chain Planning."
- 2024 **M. Harshvardhan**, C. Liu & M. Aydeniz. "Intelligent Education Systems: Advances & Future Research." Literature review.

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## Teaching

### Primary Instructor

Fall 2023 STAT 201: Introduction to Statistics (115 students)

### Teaching Assistantships

- Spring 2025 BUAD 220: Emerging Technologies in Business (20 students). [Course Website](#)
- Spring 2025 STAT 505: Business Analytics for MBA (30 students)
- Fall 2024 BA 341: Lean Operations (600+ students)
- Summer 2024 STAT 201: Introduction to Statistics (187 students)
- Spring 2024 STAT 577: Data Mining Methods and Applications (40 students)
- Spring 2024 STAT 505: Business Analytics for MBA (30 students)
- Spring 2023 BZAN 557: Text Mining (40 students)
- Fall 2022 BZAN 542: Data Mining Methods for Business Applications (40 students)
- Spring 2021 BA 341: Lean Operations (600+ students)
- Fall 2021 BZAN 555: Supply Chain Analytics (30 students)

### Guest Lectures

- 2023 "[Financial Products Complaints](#)" for MSBA class, University of Tennessee, 2023
- 2023 "[Online Textual Data Analysis](#)" for MSBA class, University of Tennessee, 2023
- 2022 "[Case Study on Association Mining](#)" for MSBA class, University of Tennessee, 2022
- 2022 "[Support Vector Machines](#)" for MSBA class, University of Tennessee, 2022
- 2022 "[Introduction to R Markdown and GitHub](#)" for MSBA class, University of Tennessee, 2022

- 2020 “Introduction to Shiny on RStudio” for FPM (PhD) students, IIM Indore, 2020
- 2017 “Introduction to  $\LaTeX$  for Resume and Assignments” open to all participants, IIM Indore, 2017

## Awards & Scholarships

- 2024 Nominated for “Outstanding Doctoral Student Teacher Award” by the Haslam College of Business, University of Tennessee.
- 2024 Received a Top-3 Poster Presentation award at the SMART-AI Workshop, University of Tennessee.
- 2024 Ranked among 12 Finalists in the 3-Minute Thesis (3MT) Competition at University of Tennessee.
- 2023 Awarded the University of Tennessee Graduate Fellowship, University of Tennessee.
- 2023 Recipient of the KDD Travel Support Award at the ACM SIGKDD Conference on Knowledge Discovery and Data Mining.
- 2023 Received the Haslam College of Business Travel Grant, University of Tennessee.
- 2022 Honored as InternStellar Award Runner-up for Best Internship Project (Technical Impact), HP Inc.
- 2019 Received the ERASMUS+ grant from the European Commission for an exchange semester at the University of Latvia.
- 2009–2016 Awarded the Ministry of Defence Scholarship by the Government of India, Sainik School Tilaiya.
- 2009–2016 Awarded the Government of Jharkhand Scholarship, Sainik School Tilaiya.

## Posters & Presentations

- 2025 Electronic poster on “Geographical Disparity in Incidence of Young Colorectal Cancer across States in the United States” at SSO 2025 (Society of Surgical Oncology Annual Meeting), Tampa, FL; Presented by Dr. Swati Sonal
- 2024 Poster on “End-to-End Inventory Prediction and Contract Allocation for Guaranteed Delivery Advertising” at SMART-AI Workshop 2024, University of Tennessee — *Best Poster Winner*
- 2023 Research presentation and poster on “[End-to-End Inventory Prediction and Contract Allocation for Guaranteed Delivery Advertising](#)” at SIGKDD, Long Beach, CA, 2023
- 2023 Research presentation on “[Artificial Intelligence and Data Sciences in Real-world Businesses](#)” at Business Analytics Forum, University of Tennessee, 2023
- 2023 Panel discussion on “[Why Academia?](#)” for Research Methodology class at IIM Indore, 2023
- 2022 Workshop on “[Personal Website for Academics](#)” at INFORMS — University of Tennessee Chapter, 2022
- 2022 Invited talk “[I Web. Therefore I Exist](#)” on creating and controlling digital identity at R Users Trenton, 2022
- 2018 Tutorial on “Using  $\LaTeX$  for Resume and Assignments” for undergraduate students at IIM Indore, 2018

## Activities

### Service Responsibilities

- 2025 Anonymous Reviewer, *INFORMS Journal of Applied Analytics*
- 2025 Anonymous Reviewer, *Production Planning and Control*
- 2025 Anonymous Reviewer, *Computers and Operations Research*
- 2024 Anonymous Reviewer, *Electronic Commerce Research and Applications*
- 2022–2025 Treasurer, INFORMS — University of Tennessee Chapter; coordinated with core members and organized local chapter events

- 2019–2021 Coordinator, Corporate Involvement, IRIS '20 (IIM Indore); led a 10-member team engaging global leaders and coordinated with government agencies for ministerial visits
- 2018–2019 Coordinator, Information Technology Club (IIM Indore); organized 8+ tech events and international workshops; initiated a tech-economy podcast
- April 2018 Volunteer, Data Science for Business Workshop (IIM Indore); assisted with workshop featuring 10 CXOs and 750+ attendees

### Press

- 2023 Interview with UT Haslam College of Business titled “Curious About ChatGPT? Get Your Answers Here” ([Haslam UTK News](#))
- 2021–2024 Wrote a weekly newsletter *Next — Today I Learnt About R* on Data Science, ML, and AI with 300+ subscribers
- Ongoing Regularly blog at [harsh17.in/blog](https://harsh17.in/blog) on Data Science, R, philosophy, and other eclectic topics

### Professional Memberships

- 2021– INFORMS Member since 2021
- 2023– ACM Member since 2023
- 2025– International Institute of Forecasting (IIF) Member since 2025

### Interests

- Sports & Culture Field Hockey (Sainik School Zonal Silver Medallist '13); Cultural — Mime and Music (Sainik School Zonal Gold Medallist '14)
- Adventure Trekking, Hiking, Bicycling, Sky Diving, Bungee Jumping, Parasailing, Kayaking, Rafting

## Open-Source Projects

- Mar 2022 *garlic*: R package for data utilities & ggplot2 theme (<https://harshvardhaniimi.github.io/garlic/>)
- Jan 2022 *IndiaPIN*: R data package for India's 19,300 PIN codes (<https://github.com/harshvardhaniimi/IndiaPIN>)
- Github See <https://harsh17.in/github> for all open-source works
- Projects See <https://www.harsh17.in/projects/> for full list of side projects

## Technical Skills

- Programming R, Python, SQL, C, C++
- Data Analysis SPSS, STATA, Advanced Excel (VBA)
- Writing  $\LaTeX$ , HTML, CSS, YAML

## Languages

- English Bilingual, Full Professional Proficiency
- Hindi Native
- German Elementary (A1)

Last updated on: October 29, 2025