

HARSHVARDHAN

Haslam College of Business, University of Tennessee, Knoxville

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EDUCATION

Haslam College of Business, University of Tennessee, Knoxville PhD in Analytics	<i>Aug '21 – Present</i>
Indian Institute of Management Indore Master of Business Administration (MBA)	<i>Jul '19 – Apr '21</i> 3.25/4.33 (top 15 percentile)
University of Latvia, Latvia International Exchange Semester (ERASMUS+ Scholar)	<i>Jan '19 – Jun '19</i> 10.0/10.0 (with distinction)
Indian Institute of Management Indore Bachelor of Arts (Foundations of Management)	<i>Aug '16 – Jun '19</i> 3.30/4.33 (top 17 percentile)

WORK EXPERIENCE

Data Science Intern, HP Inc.	<i>May '22 – Aug '23</i>
Develop, enhance and deploy advanced analytics models in supply chains. Working on improving machine learning forecasting models for HP printers worldwide; First runner-up in HP's InternStellar Award (Technical Impact Category)	
Aspect Ratio (Merck Global Centre)	<i>Apr '21 – Jun '21</i>
Developed inferential and forecasting models for Merck vaccines in EU and US markets; initiated code automation efforts by operationalising the first-ever internal automated code writing R Shiny app	
Asar for India (pro bono)	<i>Apr '21 – Jun '21</i>
Created R Shiny app that produces a spreadsheet of population levels aggregated at district, state, or any other level for more than 200 countries	
Research Intern under Prof Pritam Ranjan	<i>May '18/19 – Jun '18/19</i>
Studied Gaussian correlation structures and Gaussian models to understand the impact of parameters and analysed algorithms to evade near-singularity	
Tata Consultancy Services, Retail	<i>May '20 – Jul '20</i>
Developed strong domain knowledge in the retail value chain, operations, technologies, modern point-of-sales and unified commerce; studied generic omnichannel strategies in depth	

PUBLICATIONS

- Wuyang Mao, Chuanren Liu, Yundu Huang, Zhonglin Zu, **M Harshvardhan**, Liang Wang, and Bo Zheng. (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.
- Pritam Ranjan and **M Harshvardhan** (2022). “The Evolution of Dynamic Gaussian Process Model with Applications to Malaria Vaccine Coverage Prediction”. In D.D. Hanagal, R.V. Latpatel & G. Chandra (Eds.), *Applied Statistical Methods: ISGES 2020*. Springer. Singapore. [arXiv:2012.11124; Google Books]
- M Harshvardhan** and Bipul Kumar. (2021). “Invento Robotics: Launching Humanoid Robots”. Case Study and Teaching Note. *Ivey Publishing*. [The Case Centre]
- M Harshvardhan** and Pritam Ranjan. (2019). “Statistical Modelling and Analysis of the Computer-Simulated Datasets”. In B. Gupta, & D. Agrawal (Eds.), *Handbook of Research on Cloud Computing and Big Data Applications in IoT* (pp. 202-228). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-8407-0.ch011 [arXiv:2012.11122]
- M Harshvardhan**, Tamanna Gupta and Rahul Nilakantan. (2020) “Technical Efficiency of Indian Higher Education Institutes”. *Manuscript under preparation*.

AWARDS AND SCHOLARSHIPS

Awarded University of Tennessee Graduate Fellowship at University of Tennessee, 2023

Awarded KDD Travel Support Award at ACM SIGKDD Conference on Knowledge Discovery and Data Mining, 2023

Awarded Haslam College of Business Travel Grant at University of Tennessee, 2023

Awarded InternStellar Award (Runner-up) at HP Inc. for Best Internship Project (Technical Impact), 2022

Awarded ERASMUS+ grant by European Commission for exchange semester at University of Latvia, 2019

Awarded Ministry of Defence scholarship by Government of India at Sainik School Tilaiya, 2009–16

Awarded Government of Jharkhand scholarship at Sainik School Tilaiya, 2009–16

TALKS AND LECTURES

Guest lecture on “Financial Products Complaints” for MSBA Class, University of Tennessee, 2023

Guest lecture on “Online Textual Data Analysis” for MSBA Class, University of Tennessee, 2023

Guest lecture on “Case Study on Association Mining” for MSBA Class, University of Tennessee, 2022

Guest lecture on “Support Vector Machines” for MSBA Class, University of Tennessee, 2022

Guest lecture on “Introduction to R Markdown and GitHub” for MSBA class, University of Tennessee, 2022

Workshop on “Personal Website for Academics” at INFORMS — University of Tennessee Chapter, 2022

Invited talk “I Web. Therefore I Exist” on creating and controlling digital identity at R Users Trenton, 2022

Guest lecture on “Introduction to Shiny on RStudio” for FPM (PhD) students at IIM Indore, 2020

Tutorial on “Using \LaTeX for Resume and Assignments” for undergraduate students at IIM Indore, 2018

Guest lecture on “Introduction to \LaTeX ” open for all IIM Indore participants, 2017

TEACHING

STAT 201: Introduction to Statistics, Primary Instructor for class of 115 students, Fall 2023.

BZAN 557: Text Mining, Teaching Assistant, Spring 2023. Primary Instructor: Prof Wenjun Zhou. Guest Lecture Evaluations: 4.6/5.

BZAN 542: Data Mining Methods for Business Applications, Teaching Assistant, Fall 2022. Primary Instructor: Prof Charles Liu.

BZAN 555: Supply Chain Analytics, Teaching Assistant, Fall 2021. Primary Instructor: Prof Sean Willems.

BA 341: Lean Operations, Teaching Assistant, Spring 2021. Primary Instructor: Prof Nana Bryan.

SELECTED PROJECTS

Academic Projects (Portfolio: <https://www.harsh17.in/project/>)

Predicting Race, Age and Gender from Face using Encoders and CNNs

May '23

Leveraged Variational Autoencoder (VAE) and Convolutional Neural Network (CNN) models to develop an efficient facial image classification system, which enhanced data utilization with small samples on 108,501 images from FairFace dataset

Comparing ML Algorithms for Time-series Forecasting on M5 Dataset

May '23

Conducted a comprehensive comparison of various demand forecasting algorithms (Random Forest, XGBoost, LightGBM, Meta’s Prophet) on the M5 competition dataset, delivering valuable insights into their strengths, limitations, and performance in real-world supply chain contexts

Open-source (Github: <https://harsh17.in/github>)

garlic (<https://harshvardhaniimi.github.io/garlic/>)

Mar '22

R package for standard utility functions for exploring data, manipulating variables and a new `ggplot2` theme.

IndiaPIN (<https://github.com/harshvardhaniimi/IndiaPIN>)

Jan '22

R data package for geographic details for India's 19,300 PIN codes (ZIP codes)

ACTIVITIES

Service Responsibilities

Treasurer, INFORMS - University of Tennessee Chapter, Apr '22 – Present: Responsible for coordinating with other core members and organising local chapter events

Coordinator, Corporate Involvement, IRIS '20, Aug '19 – Mar '21: Led a team of 10 members to engage and invite global leaders; coordinated with government agencies and stakeholders for sessions

Coordinator, Information Technology Club, Mar '18 – Mar '19: Organised 8+ tech events and international video-conference workshops; initiated a podcast on tech-economy

Volunteer, Data Science for Business Workshop, April 2018: Student volunteer of Data Science for Business Workshop with 10 CXOs and 750+ attendees at IIM Indore

Press

Interview with UT Haslam College of Business titled “Curious About ChatGPT? Get Your Answers Here”, May 15, 2023. utk.edu

EXTRACURRICULAR

Write a weekly newsletter *Next — Today I Learnt About R* on Data Science, ML and AI with 300+ subscribers

Regularly blog on harsh17.in/blog about Data Science, R, urban planning, and other interesting topics

Hockey (Zonal Silver Medallist '13), Cultural - Mime and Music (Zonal Gold Medallist '14), Sainik Schools

Adventure Sports: Trekking, Hiking, Bicycling, Sky Diving, Bungee Jumping, Parasailing, Kayaking, Rafting

SOFTWARE SKILLS

Programming R, Python, SQL, C, C++

Data Analysis SPSS, STATA, Advanced Excel (VBA)

Writing \LaTeX , HTML, CSS, YAML

Last updated: January 3, 2024