HARSHVARDHAN

Haslam College of Business, University of Tennessee, Knoxville
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EDUCATION

Haslam College of Business, University of Tennessee, Knoxville *Aug '21 – Present*
PhD in Business Analytics (Management Science)

Indian Institute of Management Indore *Jul '19 – Apr '21*
Master of Business Administration (MBA) 3.25/4.33 (top 15 percentile)

University of Latvia, Latvia *Jan '19 – Jun '19*
International Exchange Semester (ERASMUS+ Scholar) 10.0/10.0 (with distinction)

Indian Institute of Management Indore *Aug '16 – Jun '19*
Bachelor of Arts (Foundations of Management) 3.30/4.33 (top 17 percentile)

WORK EXPERIENCE

Data Science Intern, HP Inc. *May '22 – Aug '23*

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) *Apr '21 – Jun '21*

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*) *Apr '21 – Jun '21*

Created raster-based R Shiny app that produces a spreadsheet of population levels aggregated at district, state, or any other level for more than 200 countries [Link]

Tata Consultancy Services, Retail *May '20 – Jul '20*

Developed strong domain knowledge in the retail value chain, operations, technologies, modern point-of-sales and unified commerce; studied generic omnichannel strategies in depth

Research Intern under Prof Pritam Ranjan *May '18/19 – Jun '18/19*

Studied Gaussian correlation structures and Gaussian models to understand the impact of parameters and analysed algorithms to evade near-singularity

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. [ACM] (*Dissertation Research*)

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]

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]

Working Papers

M Harshvardhan, Cara Curtland, Jerry Hwang, Chuck VanDam, Adam Ghozeil, Pedro A. Neto, Frederic Marie, Chuanren Liu. (2024). "Print Demand Forecasting with Machine Learning at HP Inc.". Under revision for second round review at *INFORMS Journal of Applied Analytics.* (*Dissertation Research*)

Connor Reed and **M Harshvardhan**. (2024). "Determining e-commerce strategies among grocery stores in the united states using a multi-class supervised learning model". Under revision for second round review at *Applied Geography.*

M Harshvardhan, Yue Qu and Chuanren Liu. (2024). "Predictive Optimization in Supply Chain Planning". Dissertation work on end-to-end decision modeling for demand prediction and resource allocation.

M Harshvardhan, Chuanren Liu and Mehmet Aydeniz. (2024). "Intelligent Education Systems: Recent Advances and Future Research". Literature review of AI systems in education sector.

AWARDS AND SCHOLARSHIPS

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 Finalist in 3 Minute Thesis (3MT) Competition at University of Tennessee, 2024

Awarded the University of Tennessee Graduate Fellowship, University of Tennessee, 2023.

Recipient of the KDD Travel Support Award, ACM SIGKDD Conference on Knowledge Discovery and Data Mining, 2023.

Received the Haslam College of Business Travel Grant, University of Tennessee, 2023.

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

Received the ERASMUS+ grant from the European Commission for an exchange semester at the University of Latvia, 2019.

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, 2009-2016.

TEACHING

Primary / Independent Instructor

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

Guest Lectures

"Financial Products Complaints" for MSBA Class, University of Tennessee, 2023

"Online Textual Data Analysis" for MSBA Class, University of Tennessee, 2023

"Case Study on Association Mining" for MSBA Class, University of Tennessee, 2022

"Support Vector Machines" for MSBA Class, University of Tennessee, 2022

"Introduction to R Markdown and GitHub" for MSBA class, University of Tennessee, 2022

"Introduction to Shiny on RStudio" for FPM (PhD) students at IIM Indore, 2020

"Introduction to LaTeX" open for all IIM Indore participants, 2017

Teaching Assistantship

BA 341: Lean Operations, 600+ students, Fall 2024 and Spring 2021.

STAT 201: Introduction to Statistics, 187 students, Summer 2024.

STAT 577: Data Mining Methods and Applications, 40 students, Spring 2024.

STAT 505: Business Analytics for MBA, 30 students, Spring 2024.

BZAN 557: Text Mining, 40 students, Spring 2023.

BZAN 542: Data Mining Methods for Business Applications, 40 students, Fall 2022.

BZAN 555: Supply Chain Analytics, 30 students, Fall 2021.

TALKS AND PRESENTATION

Research presentation on "End-to-End Inventory Prediction and Contract Allocation for Guaranteed Delivery Advertising"at SIGKDD, Long Beach, CA, 2023

Research presentation on "Artificial Intelligence and Data Sciences in Real-world Businesses" at Business Analytics Forum, University of Tennessee, 2023

Panel discussion on "Why Academia?" for Research Methodology class at IIM Indore, 2023

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

Tutorial on "Using LaTeXfor Resume and Assignments" for undergraduate students at IIM Indore, 2018

ACTIVITIES

Service Responsibilities

Reviewer, Electronic Commerce Research and Applications, *June '24 – Present*: Anonymous reviewer for Elsevier journal on e-commerce research.

Treasurer, INFORMS - University of Tennessee Chapter, *Apr '22 – Present*: Coordinated with core members and organized local chapter events.

Coordinator, Corporate Involvement, IRIS '20, *Aug '19 – Mar '21*: Led a 10-member team to engage global leaders; coordinated with government agencies for minister visits.

Coordinator, Information Technology Club, *Mar '18 – Mar '19*: Organized 8+ tech events and international workshops; initiated a tech-economy podcast.

Volunteer, Data Science for Business Workshop, *April 2018*: Assisted with a workshop featuring 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. Haslam UTK News

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

Professional Memberships

INFORMS Student Member since 2021; ACM Student Member since 2023.

Interests

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

OPEN-SOURCE PROJECTS

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)

See https://harsh17.in/github and https://www.harsh17.in/projects/ for complete listing.

SOFTWARE SKILLS

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

Data Analysis SPSS, STATA, Advanced Excel (VBA)

Writing LaTeX, HTML, CSS, YAML

LANGUAGES

English: Bilingual; Full working proficiency

Hindi: Native proficiency

German: Elementary proficiency (A1 level)

Last updated: September 10, 2024