

雷松亞

SOUMYA RAY

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ACADEMIC EXPERIENCE

Distinguished Professor

Jul 2021 – present

Associate Professor

Aug 2015 – Jun 2021

Assistant Professor

Aug 2010 – Jul 2015

Institute of Service Science
NATIONAL TSING HUA UNIVERSITY

Visiting Scholar

Aug 2019 – Jun 2020

School of Information
UNIVERSITY OF CALIFORNIA-BERKELEY

EDUCATION

Doctor of Philosophy

Jul, 2010

Operations & Information Management

Minor: Applied Statistical Methods

Master of Science

Jul, 2002

Industrial Engineering

Focus: Manufacturing Production Systems

UNIVERSITY OF WISCONSIN-
MADISON

Bachelor of Science

Dec, 1998

Computer Science

JOURNAL ARTICLES

Fišar, M., Greiner, B., Huber, C., Katok, E., Ozkes, A., and the Management Science Reproducibility Collaboration* (forthcoming). Reproducibility in Management Science. *Management Science*.

* Note: Member of the Management Science Reproducibility Collaboration

Schwartz, D.G., Spitzer, S., Khalemsky, M., Cano, A., Ray, S., Chiou, T., Sakhnini, R., Lanin, R., Meir, M. and Tsai, M.C.T., (forthcoming). Apps don't work for patients who don't use them: Towards frameworks for digital therapeutics adherence. *Health Policy and Technology*.

Shmueli, G., Ray, S., 2024. Reimagining the Journal Editorial Process: An AI-Augmented Versus an AI-Driven Future. *Journal of the Association of Information Systems*, 25(1), pp. 60-75.

Danks, N.P., Ray, S., Shmueli, G. 2024. The Composite Overfit Analysis Framework: Assessing the Out-of-sample Generalizability of Construct-based Models Using Predictive Deviance, Deviance Trees, and Unstable Paths. *Management Science*, 70(1), pp. 647-669.

Greene, T., Shmueli, G., Ray, S., 2023, Taking the Person Seriously: Ethically-aware IS Research in the Era of Reinforcement Learning-based Personalization, *Journal of the Association of Information Systems*, 24(6), 1527-1561.

Cano Bejar, A.H., Ray, S., Huang, Y.H. 2023. Fighting for the Status Quo: Threat to Tech Self-Esteem and Opposition to Competing Smartphones, *Information & Management*, 60(2).

Kuem, J., & Ray, S. 2021. Personality Antecedents and Consequences of Internet Addiction Vis-à-vis Internet Habit: A Theory and an Empirical Investigation. *Information Systems Frontiers*, 1-16.

- Kuem, J., Ray, S., Hsu, P., Khansa, L. 2020, "Smartphone Addiction and Conflict: An Incentive-Sensitization Perspective of Addiction for Information Systems," *European Journal of Information Systems*, 30(4), 403-424.
- Shiau, W.-L., Yuan, Y., Pu, X., Ray, S., Chen, C.C. 2020. "Understanding fintech continuance: perspectives from self-efficacy and ECT-IS theories", *Industrial Management & Data Systems*, (120:9), pp. 1659-1689.
- Greene, T., Shmueli, G., Ray, S., Fell J. 2019, "Adjusting to the GDPR: The Impact on Data Scientists and Behavioral Researchers," *Big Data*, (7:3), pp. 140-162.
- Seo, D., Ray, S., (2019), "Habit and Addiction in the Use of Social Networking Sites: Their Nature, Antecedents, and Consequences," *Computers in Human Behavior*, (99), pp. 109-125.
- Sharma, P., Sarstedt, M., Shmueli, G., Danks, N., Ray, S. 2018. "Prediction-Oriented Model Selection in Partial Least Squares Path Modeling," *Decision Sciences*, (21:1), pp. 243-241.
- Kuem, J., Ray, S., Siponen, M., Kim, S. S. 2017. "What Leads to Prosocial Behaviors on Social Networking Services: A Tripartite Model," *Journal of Management Information Systems* (34:1), pp. 40-70.
- Khansa, L., Barkhi, R., Ray, S., Davis, Z. 2017. "Cyberloafing in the workplace: mitigation tactics and their impact on individuals' behavior," *Information Technology and Management*, pp. 1-19.
- Shmueli, G., Ray, S., Estrada, J. M. V., Chatla, S. B. 2016. "The Elephant in the Room: Predictive Performance of PLS Models," *Journal of Business Research* (69), pp. 4552-4564.
- Ray, S., Kim, S.S., & Morris, J.G. 2014. "The Central Role of Engagement in Online Communities," *Information Systems Research* (25:3), pp. 528-546.
- Hsu, P., Ray, S., & Li-Hsieh, Y. 2014. "Examining cloud computing adoption intention, pricing mechanism, and deployment model," *International Journal of Information Management* (34:4), pp. 474-488.
- Ray, S., and Seo, D. 2013. "The interplay of conscious and automatic mechanisms in the context of routine use: An integrative and comparative study of contrasting mechanisms," *Information & Management* (50:7), pp. 523-539.
- Ray, S., Kim, S. S., and Morris, J. G. 2012. "Online Users' Switching Costs: Their Nature and Formation," *Information Systems Research* (23:1), pp. 197-213.
- Ray, S., Ow, T., and Kim, S. S. 2011. "Security Assurance: How Online Service Providers Can Influence Security Control Perceptions and Gain Trust," *Decision Sciences* (42:2), pp. 391-412.

Notable Conference Proceedings (Computer Science)

- Danks, N.P., Ray, S. 2023.
- Shmueli, B., Fell, J., Ray, S., Ku, L.W. 2020. Beyond Fair Pay: Ethical Implications of NLP Crowdsourcing, *in proceedings of 2021 Annual Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies – (NAACL 2021)*
- Shmueli, B., Ku, L. W., & Ray, S. 2020. Reactive Supervision: A New Method for Collecting Sarcasm Data, *in Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP 2020)*

Books

- Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R: A Workbook*, Springer.

Book Chapters

Danks, N., Ray, S. (2018) “Chapter 3: Predictions from Partial Least Squares Models,” *Application of Partial Least Squares – Structural Equation Modeling (PLS-SEM) in Tourism and Hospitality Research*, Emerald Publishing.

Under Review

Hsu, P.F., Nguyen, K., Shmueli, S., Ray, S. “When Survey Research Meets Predictive Analytics: A Framework and Demonstration of Theory Assessment Using Prediction” – 2nd round at *Journal of the Association of Information Systems*.

Working Papers

Cano, A., Ray, S. “Who Cares About Privacy? Dual Stances of Privacy Control in Social Networking Services”

Ray, S., Danks, N., Cheah, J. “ModPredict: Evaluating the Predictive Utility of Higher-Order Terms in Composite Models”

Duron, Edgar A., Ray, S. “Not Human Enough: The Impact of Dynamic System Response Time on Option Filtering Behavior of Chatbot Users”

Danks, N., Ray, S., Chiu, C.M., Hsu, J. “StablePLS: Rectifying the Zero-Effect Problem of Partial Least Squares Path Modeling”

SOFTWARE RELEASED

SEMINR: R package for Structural Equation Modeling (<https://github.com/sem-in-r/semnr>)
User Engagement: 18,000+ downloads; 3 learning books; YouTube Video Series; used worldwide by teachers in classrooms and research publications

COMPSTATSLIB: R package for Interactive and Visual Introduction to Computation and Statistics for Learners and Teachers (<https://github.com/soumyaray/compstatslib>)

Editorial Service

Board Member Dec 2022 – present	<i>Information Systems Research (ISR)</i> Editorial Review Board
Associate Editor Jan 2022 – present	<i>Decision Support Systems (DSS)</i> Editorial Review Board
Board Member Feb 2018 – present	<i>Journal of Applied Structural Equation Modeling (JASEM)</i> Editorial Advisory Board
Associate Editor Feb 2018 – Mar 2021	<i>Information & Management (I&M)</i> Editorial Review Board
Guest Editor Jan 2019	<i>Industrial Management & Data Systems (IMDS)</i> Special Issue Editorial Board

CONFERENCE SERVICE

Track Chair 2020, 2021 (2x)	<i>Pacific Asia Conference on Information Systems (PACIS)</i> Security and Privacy Track
Program Committee 2020	<i>International Conference on Service Science and Innovation (ICSSI)</i>
Session Chair 2018	<i>INFORMS International</i> Predictive Analytics in Service and Education
Session Chair 2018	<i>INFORMS International</i> Data Privacy, Path Models and Predictive Analytics
Panelist 2013	<i>International Conference on Service Science and Innovation (ICSSI)</i> Service Engineering Panel
Discussant 2012	<i>International Association for Management of Technology (LAMOT)</i>

TEACHING EXPERIENCE

National Tsing Hua University (Primary Instructor):

BUSINESS ANALYTICS USING COMPUTATIONAL STATISTICS (BACS): Computationally intensive applications of statistical techniques for modeling business phenomenon, using non-parametric techniques, geometric transformations, and simulation.

SERVICE ORIENTED ARCHITECTURE (SOA): Designing, developing, and deploying scalable, cloud-based applications composed of distributed IT services, using domain-driven design (DDD), behavior-driven design (BDD), and continuous integration and delivery (CI/CD).

IT SERVICE SECURITY (SERVSEC): Employing cryptographic and programmatic techniques to create innovative information services with secure qualities: confidentiality, data integrity, authentication, authorization, and nonrepudiation.

INTRODUCTION TO PROGRAMMING FOR BUSINESS ANALYTICS: (short session) Beginner-level class introducing programming and statistics: paradigms and methods of programming for solving data analytic tasks; basic statistical concepts related to programmatic solutions.

University of Wisconsin (Teaching Assistant):

XML & WEB SERVICES: Guest lectures on web development, MVC architecture

SYSTEMS ANALYSIS & DESIGN: Guest lectures on design patterns, refactoring

Database Management: Guest lectures on developing database-driven systems

AWARDS

Academic Research Awards:

MoST Outstanding Research Award – 2019 (Ministry of Science and Technology)

Wu, Da-You Memorial Award – 2012 (National Science Council)

New Faculty Research Award – 2012 (National Tsing Hua University)

Academic Service Awards:

Best Reviewer – 2021 (Journal of Applied Structural Equation Modeling)

Outstanding Reviewer – 2014 (Decision Sciences Journal)

Teaching Awards:

Outstanding Teaching Award – 2022 (National Tsing Hua University) – top 2%
Outstanding Teaching Award – 2019 (National Tsing Hua University) – top 2%
Outstanding Teaching Award – 2019 (College of Technology Management, NTHU)
Outstanding Teaching Award – 2015 (National Tsing Hua University) – top 2%
Outstanding Teaching Award – 2015 (College of Technology Management, NTHU)

Mentored Students' Awards:

Outstanding Mentor Award – 2016 (College of Technology Management, NTHU)
Outstanding Masters Dissertation Award – 2012 (Service Science Society of Taiwan)

PhD Scholarships: (prior to 2010)

Morgridge Distinguished Graduate Student Fellowship (2007; 2008; 2009)
Wisconsin School of Business Doctoral Students Research Program Award (2009)
Operations and Information Management – Departmental Scholarship (2007, 2008, 2009)

GRANTS

Primary Investigator (from R.O.C. Ministry of Science and Technology - MoST):

Psychological Ownership of mHealth Apps – Israel-Taiwan Project	111-2923-H-007-001
Understanding How Users' Sense of Control Affects IT Interactions	110-2410-H-007-027
Research IT Platforms for Behavioral Research	108-2918-I-007-003
Advancing Predictive Modeling of User Behavior	107-2410-H-007-033
Using Predictive Analytics to Advance Theory-based Modeling	105-B2013QB
Active Resistance Against Alternative Platforms	104-2410-H-007-057
Technology Addiction in the Context of Smartphones	103-2410-H-007-039
Habit and Addiction at Social Networking Websites	102-2410-H-007-053
Employee Response to IT Policies	101-2410-H-007-004
Online Communities: Identity, Engagement, and IT Artifacts	100-2410-H-007-001

Co-Investigator:

Service Resilience Management – Government Benchmark Project
Internet of Things – Government Benchmark Project
Service Design for Smarter Service Through Analytics

INVITED TALKS

“Computational Code Validity and Reproducibility for Scientific Research”

Trinity Business School, Trinity College-Dublin, 2022
Life Sciences, National Tsing-Hua University, 2020 – 2022

“Who Cares About Privacy? The Dual Nature of Privacy Control in Social Networking Services”

Trinity Business School, Trinity College-Dublin, 2022
McIntire School of Business, University of Virginia, 2019
College of Hospitality and Tourism Leadership, University of South Florida-Sarasota-Manatee, 2019

“Using Computational Methods in Business Research”

Business Studies Department, University of Technology and Applied Science – Ibri 2022 (virtual)

“Ruby in the Classroom: Going off the Rails with Roda”

COSCUF x RubyConf TW 2021 (virtual)

Keynote Speech: “Programmatic Approaches to Structural Equation Modeling (SEM)”
SASEM 2021 (virtual)

“Survey Research: Measurement and Structural Models,”

Information Management Department, National Taiwan University, 2019.

“Data Mining for Healthier Module Ecosystems,” *Social Networks and Human Centered Computing*, Academia Sinica, 2018.

“Gem Miner: Module Ecosystems and Us,” *Computer Science*, National Tsing Hua University, 2016.

“Jumping into Open Source: New Ways of Working and Living,” *Computer Science*, National Tsing Hua University, 2016.

“Web API Data Collection: Methods and Means,” *Management Information Systems*, National Kaohsiung Normal University, 2016.

“Gem Miner: Module Ecosystems and Us,” *Information Systems and Applications*, National Tsing Hua University, 2016.

“The Central Role of Engagement in Online Communities,” *Management Information Systems*, National Kaohsiung Normal University, 2016

“Online Consumer Behavior: Overview and Research Agenda,” *Management Information Systems*, National Sun-Yat Sen University, 2015.

“How We Routinely Use Online Services: An Interplay of Conscious and Automatic Mechanisms,” *Information Systems*, Yuan-Ze University, 2013.

“The Central Role of Engagement in Online Communities,” *Management Information Systems*, Yuan-Ze University, 2012.

“The Central Role of Engagement in Online Communities,” *Management Information Systems*, National Sun-Yat Sen University, 2012.

UNIVERSITY-INDUSTRY COLLABORATIONS

National Tsing Hua University

DIPP: Oversaw research and development of machine-learning based design system for online advertisements. Compared performance of heuristic, predictive, and style transfer algorithms.

ASIAYO!: Led team to develop and deploy intelligent chatbot for online room rental service (major online shared economy service in Asia Pacific). Focused on contrasting full chatbot experience with integrated inventory, to traditional web experience.

PICCOLLAGE (CARDINAL BLUE): Oversaw investigation of recommendation system design for online collage making app (~ top 10 in Media section of iOS Appstore). Focused on collaborative filtering of app sticker bundles, with to help company explore automated recommendations for app users.

ICHEF: Co-led team to investigate machine learning systems to restaurant management IT service (mobile app for restaurant staff and managers). Focused on time-series forecasting of restaurant demand, to help company explore forecasting solution for client restaurants.

University of Wisconsin

POWERDESIGNERS ENTERPRISE SOLUTION: Systems analysis and design project to design and develop integrated customer relationship management, inventory management, and knowledge management system for a power-electronics design and manufacturing firm.

MONONA STRATEGIC PROCESS PROJECT: Member of team to review, analyze, and redesign the strategic planning process for the city government of Monona, WI.

MARQUIP INFORMATION MANAGEMENT PROJECT: Member of team to improve the documentation creation and retrieval process, and to create prototype online product/knowledge management system, for heavy machinery manufacturer Marquip LLC.

GLOBALTRADEVILLAGE.COM VENTURE PLANNING PROJECT: Member of team to analyze and recommend survival strategies and business models for an e-marketplace startup.

DEPARTMENT OF JUSTICE (DOJ) ONLINE BACKGROUND CHECK PROJECT: Member of team to from to conduct market analysis for the State of Wisconsin DOJ's background record checking service, so as to guide in the creation of an alternative web-based application.

SERVICE AT NATIONAL TSING HUA UNIVERSITY

Council member:

College of Technology Management AACSB Certification Board (2014 – 2019)

Institute of Service Science (2010 – present)

International MBA program (2010 – 2014; 2020 – present)

Advisory Board Member:

NTHU Center for Asia Policy (2014 – 2016)

Appointed Student Mentor:

NTHU Global Program (GP) (2014 – present)

Dual Specialty Program in Management and Technology (2011 – present)

JOURNAL REVIEWS

<i>ACM Transactions on Management Information Systems (TMIS)</i>	<i>Journal of Applied Structural Equation Modeling (JASEM)</i>
<i>DATA BASE</i>	<i>Journal of Hospitality and Tourism Technology (JHTT)</i>
<i>Decision Sciences Journal (DSJ)</i>	<i>Journal of Management (JoM) Chinese</i>
<i>Decision Support Systems (DSS)</i>	<i>MIS Quarterly (MISQ)</i>
<i>DATA BASE – 2013, 2012</i>	<i>National Taiwan University (NTU) Management Review</i>
<i>European Journal of Informaion Systems (EJIS)</i>	<i>Pacific Asian Journal of the Association for Information Systems (PAJAIS)</i>
<i>Information Systems and e-Business Management (ISEB)</i>	<i>Scientific Research Publishing (SRP)</i>
<i>Information Systems Journal (ISJ)</i>	<i>IEEE Transactions on Services Computing (TSCSI)</i>
<i>Information Systems Research (ISR)</i>	
<i>International Journal of Quality and Service Sciences (IJQSS)</i>	

CONFERENCE REVIEWS

<i>CHI Conference on Human Computer Interaction (of SIGCHI)</i>	<i>HICSS Hawaii International Conference on System Sciences</i>
<i>ICIS International Conference on Information Systems</i>	<i>ICIRM International Conference on Information Resources Management</i>
<i>DIGIT Workshop (of SIGADIT - The Special Interest Group on the Adoption and Difusion of IT)</i>	<i>PACIS Pacific Asia Conference on Information Systems</i>

PROJECT ASSISTANTSHIPS AND INTERNSHIPS

Space Sciences and Engineering Center (2002 - 2003)

PROJECT ASSISTANT: Served in project management offices of project ICECUBE, a collaboration between a dozen universities and national research laboratories around the world to install a neutrino telescope in the South Pole. Conducted study and provided technical input into the design of a comprehensive project management tool for project ICECUBE.

Consortium for Global Electronic Commerce (CGEC) (1998 - 2002)

PROJECT ASSISTANT: Web developer creating a consortium web application for member registration, community building tools, job placement services, and online news. Also worked closely with others in the Consortium in planning our web presence.

Laboratory for Electronic Commerce Decision Technologies (1997 - 1998)

PROJECT ASSISTANT: Worked with university researchers to develop proof-of-concept applications to demonstrate cutting-edge web applications. Also designed and created a Web-based database-application to manage working papers and information on researchers for the Manufacturing and Service Operations Management Society (MSOM) and its parent organization, INFORMS.

United Nations Environmental Program (UNEP) (1996)

INTERNSHIP: Developed in-house administrative software tools for user analytics, and integrated web systems for the Environmental Information Systems (EIS) division. Developed online search applications for the UNEP Library system and the UNEP-GRID Metadata directory system.