

Special Issue Editorial
Location Analytics: Shaping the Future of IS Education

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Recommended Citation: Satpathy, A., Erskine, M. A., & Garfield, J. (2026). Special Issue Editorial: Location Analytics: Shaping the Future of IS Education. *Journal of Information Systems Education*, 37(3), 355-359.
<https://doi.org/10.62273/BVMA1186>

Article Link: <https://jise.org/Volume37/n3/JISE2026v37n3pp355-359.html>

Received: April 20, 2026
First Decision: May 1, 2026
Accepted: May 24, 2026
Published: September 15, 2026

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<https://jise.org>

ISSN: 2574-3872 (Online) 1055-3096 (Print)

Special Issue Editorial

Location Analytics: Shaping the Future of IS Education

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ABSTRACT

Location-aware data and technologies are increasingly shaping organizational decision-making across industries. This editorial introduces a special issue focused on the growing role of location analytics in Information Systems (IS) education. The contributions emphasize spatial thinking as an essential analytical capability, demonstrate how location-based analysis can be integrated into real-world decision-making contexts, and present scalable approaches for curriculum development. The issue also highlights ethical considerations, hands-on learning approaches, and emerging models for curricular integration, offering practical and conceptual insights for advancing IS education.

Keywords: Location analytics, IS education, Spatial thinking, Curriculum design & development

1. INTRODUCTION

Across business domains such as real estate, supply chain, cybersecurity, and marketing, spatial context is becoming increasingly central to organizational decision-making (Esri, 2024; GVR Communications Infrastructure Research Team, 2024). Organizations now integrate location-aware data into dashboards, predictive models, and AI-enabled systems to better understand risk, access, behavior, and operational efficiency. As these capabilities become more accessible, Information Systems (IS) education is uniquely positioned to prepare students for a rapidly expanding generation of spatially informed decision

environments. This creates an important opportunity to integrate spatial reasoning and location analytics more directly into IS curricula.

IS education now has a significant opportunity to further integrate spatial reasoning and location-based analysis into analytics curricula (Erskine et al., 2024). Although geospatial technologies, such as Geographic Information Systems (GIS), location analytics, and spatial intelligence platforms, are widely available, developing spatial reasoning requires more than access to geospatial technologies alone. Location is often introduced through visualization and mapping applications, creating opportunities to further integrate spatial context into analytical reasoning and decision-making. As a result, there is an opportunity to align classroom better learning with emerging organizational practice. As organizations increasingly adopt spatially informed decision-making, IS education is well positioned to expand students' engagement with location-aware analysis. This evolution creates opportunities to strengthen spatial reasoning, contextual decision-making, and ethical awareness within modern analytics education.

2. ADVANCING LOCATION ANALYTICS IN IS EDUCATION

IS programs are incorporating location analytics in various ways, including dedicated courses, specialized modules, and broader analytics instruction. This diversity reflects growing interest in spatial thinking across educational contexts (Erskine et al., 2024). At the same time, institutions are experimenting with different models for integrating location analytics into IS curricula.

A second area of development involves how location-based analysis is incorporated into teaching and learning. Existing instructional approaches have been highly effective in introducing students to geospatial tools and spatial data sources. As organizations increasingly rely on spatially informed analytics, there is an increasing opportunity to further connect these technical skills with spatial reasoning, contextual interpretation, and organizational decision-making (Jo et al., 2016).

A third opportunity involves the broader integration of location-based analytics into the IS curriculum and program design. Existing IS curriculum guidelines already emphasize analytics, data, and systems thinking, providing a strong foundation for incorporating location-based analysis within modern IS education frameworks (Leidig & Salmela, 2021). Recent work further demonstrates how location analytics can be integrated through case-based learning, DEI (diversity, equity, and inclusion) and ESG (environmental, social, and governance) applications, and experiential learning approaches (Satpathy et al., 2026). In many institutions, faculty-led innovation has played an important role in advancing the integration of location analytics into IS curricula. Broader discussions on the role of geospatial data in education similarly point to the need for more systematic integration (IIEP-UNESCO, 2026).

A related concern across these challenges is the ethical and privacy implications of location-based data. As organizations increasingly rely on spatial data, preparing students to thoughtfully engage with privacy, consent, and responsible data use has become an essential component of analytics education (Apte et al., 2019; Goovaerts, 2024; Tonetto et al., 2024). These developments motivate this special issue, which brings together contributions that advance curriculum design, instructional approaches, and ethical engagement in location analytics education.

3. SPECIAL ISSUE DEVELOPMENT PROCESS

This special issue was initiated through a formal call for papers published by the *Journal of Information Systems Education*, inviting contributions on “*Location Analytics: Shaping the Future of IS Education*.” The call emphasized the growing importance of location analytics in IS curricula and encouraged submissions addressing pedagogical approaches, curriculum design, case-based learning, and real-world applications.

Submissions were received and evaluated through a double-blind peer review process in accordance with the Journal's standard procedures. Each manuscript was reviewed by multiple reviewers in their respective fields of expertise and assessed for relevance to the special issue theme, rigor, and contribution to IS education. Authors were invited to revise their work in response to reviewer feedback, and multiple

rounds of review were conducted to ensure clarity, quality, and alignment with the special issue's objectives.

The review process followed a structured timeline, with first submissions due in March 2025 and final decisions reached in May 2026. Following this process, three articles were selected that reflect a range of perspectives on location analytics in IS education. In addition, an editorially reviewed commentary was included.

4. OVERVIEW OF ARTICLES IN THIS ISSUE

The articles in this special issue collectively demonstrate the growing role of location analytics in shaping contemporary IS education. Across the contributions, three broad themes emerge: positioning spatial thinking as a core analytical capability, embedding location-based analysis within real-world decision contexts, and advancing scalable approaches for curricular integration.

The special issue opens with a hands-on, modular approach to incorporating location-based analysis into information systems and analytics courses. In *"A Data Preparation and Enrichment Exercise for Location-Aware Analysis of University Innovation,"* Díaz López, Cazier, and Mamunuru focus on a frequently overlooked aspect of analytics education: data preparation. Using a dataset enriched with location-based attributes, the exercise guides students through a structured workflow that includes data cleaning, integration of external sources, unit-of-analysis decisions, and dataset transformation. By positioning data preparation as an accessible entry point, the paper provides an instructor-ready and scalable framework for developing foundational spatial competencies.

Building on this analytical foundation, Ladwig and Schwieger foreground the ethical and societal implications of location-based data and decision-making in *"No Place to Hide: Ethical and Legal Challenges in Geospatial Consumer Targeting."* Their teaching case centers on real-world legal and ethical issues surrounding geofencing and location-based marketing and illustrates how organizations leverage location data through increasingly sophisticated forms of location-aware targeting. By engaging students in evaluating legal frameworks, ethical tradeoffs, and professional responsibilities, the authors provide a practical approach for integrating responsible data use into IS curricula. This contribution emphasizes that the technical use of spatial data is inherently connected to questions of privacy, fairness, and societal impact.

Complementing these pedagogical contributions, Sarkar and Kerski provide an empirical examination of how location analytics is currently implemented across IS and business education. In *"Understanding How Location Analytics Is Implemented in Information Systems and Business Education,"* the authors analyze 17 institutional implementations and identify three distinct paradigms of curricular integration. Their findings reveal substantial variation in adoption, ranging from isolated course-level initiatives to more mature, program-level integration. The study further shows that these efforts are often driven by individual faculty members who champion location analytics rather than by general IS curricular paradigms. Their paper provides insight into both the opportunities and structural challenges associated with scaling location analytics within IS education.

The special issue concludes with a forward-looking conceptual commentary contribution that reframes the role of location analytics in IS curricula. In *"Preparing Students for a Spatially Driven Business World: Why Location Analytics Belongs in Every IS Curriculum,"* Corso et al. argue that location analytics should be treated as a core foundational component of IS education rather than a specialized elective. The authors highlight a persistent disconnect between organizational practice and curriculum design, which stems from the fragmented way spatial concepts are taught. To address this, they propose a layered curricular model that embeds spatial reasoning across foundational IS skills, business applications, and AI-enabled decision systems. The paper further emphasizes that developing spatial capability requires not only technical proficiency but also conceptual understanding and ethical awareness. This contribution offers a forward-looking roadmap for advancing IS curriculum design.

5. CONCLUSION

The articles in this special issue collectively demonstrate how location analytics can enrich IS education through spatial reasoning, contextual awareness, and real-world decision-making. This includes developing the ability to interpret spatial relationships, evaluate tradeoffs, and understand the broader implications of location-based decisions. By advancing the conceptual and pedagogical foundations of location analytics, this special issue strengthens alignment between IS education and practice and contributes to a more complete, forward-looking vision of IS education. Developing students' capacity for spatial reasoning reflects principles of experiential and situated learning, in which understanding emerges through authentic, context-rich problem-solving. It also supports the development of deeper conceptual understanding, beyond rote learning. Grounding location analytics in these pedagogical traditions better prepares students for the spatially informed decision-making in practice. The goal is to prepare IS professionals who combine analytical capability with spatial awareness and can understand how decisions unfold across space. As location increasingly shapes outcomes, students must learn to see data in context and recognize how place influences impact, opportunity, and risk.

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Asish Satpathy is an Associate Teaching Professor in the Department of Information Systems at Arizona State University's W. P. Carey School of Business. His research focuses on GeoAI, location analytics, and machine learning for decision support, with applications in urban gun violence, homelessness risk, public safety, national security, and health equity. His research portfolio includes a Department of Defense-supported study on drone-related airspace vulnerabilities, as well as ongoing work on multi-city structural risk modeling using geospatial data and AI. His work also advances explainable GeoAI system design and geo-enriched text analytics within Information Systems research. His research has been published in *Annals of GIS*, *Managerial Auditing Journal*, *Journal of Information Systems Education*, *Communications of the AIS*, and *Journal of Information Systems Applied Research and Analytics*.



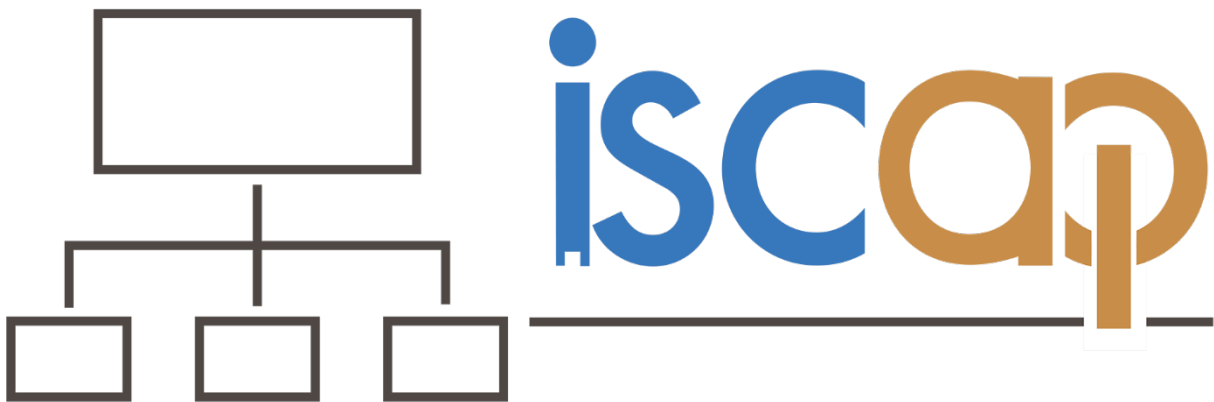
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ISSN: 2574-3872 (Online) 1055-3096 (Print)