Journal of Information Systems Education

Volume 37
Issue 3
Summer 2026

Invited Editorial

Preparing Students for a Spatially Driven Business World: Why Location Analytics Belongs in Every IS Curriculum

Anthony Corso, Michael A. Erskine, Dan Farkas, Namchul Shin, Joy Garfield, James Pick, Asish Satpathy, and Xihui "Paul" Zhang

Recommended Citation: Corso, A., Erskine, M. A., Farkas, D., Shin, N., Garfield, J., Pick, J., Satpathy, A., & Zhang, X. (2026). Invited Editorial: Preparing Students for a Spatially Driven Business World: Why Location Analytics Belongs in Every IS Curriculum. *Journal of Information Systems Education*, 37(3), 436-447. https://doi.org/10.62273/NFUU7723

Article Link: https://jise.org/Volume37/n3/JISE2026v37n3pp436-447.html

Received:	April 7, 2026
First Decision:	April 22, 2026
Accepted:	May 24, 2026
Published:	September 15, 2026

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

Journal of Information Systems Education, 37(3), 436-447, Summer 2026
https://doi.org/10.62273/NFUU7723

Invited Editorial
Preparing Students for a Spatially Driven Business World: Why Location Analytics Belongs in Every IS Curriculum

Anthony Corso
Gordon and Jill Bourns College of Engineering
California Baptist University
Riverside, CA 92504, USA
acorso@calbaptist.edu

Michael A. Erskine
Jones College of Business
Middle Tennessee State University
Murfreesboro, TN 37132, USA
michael.erskine@mtsu.edu

Dan Farkas
Namchul Shin
Seidenberg School of Computer Science and Information Systems
Pace University
New York, NY 10038, USA
dfarkas@pace.edu, nshin@pace.edu

Joy Garfield
Aston Business School
Aston University
Birmingham, UK
j.garfield@aston.ac.uk

James Pick
School of Business and Society
University of Redlands
Redlands, CA 92373, USA
james_pick@redlands.edu

Asish Satpathy
W. P. Carey School of Business
Arizona State University

Journal of Information Systems Education, 37(3), 436-447, Summer 2026
https://doi.org/10.62273/NFUU7723

Tempe, AZ 85287, USA
asish.satpathy@asu.edu

Xihui "Paul" Zhang
Sanders College of Business and Technology
University of North Alabama
Florence, AL 35632, USA
xzhang6@una.edu

ABSTRACT

Location analytics is becoming increasingly important in business practice, yet it remains underdeveloped in many Information Systems (IS) curricula. In many programs, location is treated as a mapping exercise, a visualization feature, or a specialized GIS topic rather than as an important part of analytical thinking and decision-making. This commentary argues that spatial reasoning should be integrated more directly into IS education because business decisions are often shaped by proximity, scale, accessibility, interaction, and geographic context. We discuss how the current fragmented approach limits students' ability to understand how location influences analytical outcomes and organizational decisions. To address this issue, we propose a layered curricular framework that connects IS foundations, spatial reasoning, and spatially informed business decision-making. We also discuss the role of problem-centered learning and ethical spatial thinking in preparing students for modern business environments, where understanding location is increasingly essential.

Keywords: Location analytics, Spatial reasoning, IS education, Spatial decision-making, IS curriculum, Ethical spatial reasoning

1. INTRODUCTION

What if the models we teach our students are technically correct, yet still lead to poor decisions? In a typical IS/Analytics course, students analyze datasets containing customer demand, demographic, and socio-economic variables (such as income, population density, and household size), and regional identifiers (such as ZIP codes). Using regression or clustering, students are taught how to identify high-demand regions and recommend where to expand service and allocate resources. The model performs well, explaining regional demand variations and producing clear, actionable insights. However, when these decisions are implemented, the outcome falls short. Some "high potential" areas underperform, while others exceed expectations.

The problem lies in the spatial assumptions embedded in the analysis. ZIP codes are treated as uniform spatial units, distances are assumed to be straight-line, and each observation is treated as independent. Customers are separated by highways, and traffic patterns influence accessibility. Nearby areas influence one another, creating spatial dependence that the model fails to capture. These assumptions matter because they directly affect how demand, cost, and performance are estimated. Treating spatial units as homogeneous masks within-area variations. Ignoring real travel paths misrepresents accessibility and service efficiency. Assuming independence overlooks spatial spillover, in which neighboring areas experience cross-flows driven by similar behaviors or constraints. As a result, models may overestimate demand in some locations, underestimate operational costs, and misallocate resources. Hence, an optimal analysis becomes suboptimal in practice. So, what is missing is spatial reasoning. Without it, we risk training students to build prediction models that look correct in theory but fail in practice.

This limitation reflects a broader issue in Information Systems (IS) education. Organizations increasingly rely on location-aware data to inform decisions ranging from market expansion and site selection to logistics optimization, risk assessment, and customer engagement. Advances in data availability, cloud platforms, and analytics have enabled the embedding of location in dashboards, predictive models, and real-time decision systems (Erskine et al., 2024; Goodchild, 2007; Horan et al., 2022; Tripp et al., 2025). Yet, despite this growing reliance in business, information systems (IS) curricula often treat location analytics as peripheral, if it is addressed at all (Estaville, 2007; Gadish, 2006; Heywood & Petch, 1991; Johnson, 1996).

When location is included in analytics curricula, it is often treated as just another variable (e.g., city, ZIP code, or region) or as a means for visualization, such as plotting points on a map in tools like Tableau. These approaches provide exposure, but they do not require students to engage in spatial reasoning. As a result, students learn how to include location in analysis, but not how location shapes the logic of decision-making.

This creates a disconnect between how decisions are made in practice and how they are taught in IS education. While students are trained to build data pipelines, analyze data, and develop systems, they are rarely equipped to reason or interpret how spatial context influences outcomes (Erskine et al., 2024). Although efforts to introduce GIS into business curricula have existed for decades, they have largely focused on tools and applications, without fully embedding spatial reasoning into core decision-making frameworks (Gadish, 2006). Earlier work similarly identified both the potential of spatial analysis and the challenges of integrating it meaningfully into business education (Heywood & Petch, 1991), suggesting that this is a persistent challenge.

A useful way to understand this issue is to recognize that spatial context is not an additional feature of data; it is a dimension that fundamentally shapes how problems are framed and how solutions are evaluated. Distance, proximity, clustering, and boundaries influence cost structures, risk exposure, access to resources, and behavioral patterns. When IS students' spatial understanding is limited, they are left to treat location analysis results as secondary or incidental rather than as integral to problem-solving and decision-making.

Prior work in business education has long suggested that while GIS technologies are available, their conceptual integration into teaching lags behind their practical importance (Kidman & Palmer, 2006; Shepherd, 2009). Making location explicit better aligns how we teach decision-making with how it is practiced. A more appropriate framing treats location not as a descriptive attribute, but as an analytical lens through which business problems should be understood.

Spatial reasoning and the conceptual foundation for this reframing encompass the ability to understand spatial relationships, representations, and processes that shape how problems are framed and interpreted (National Research Council, 2006). It reflects the analytical processes used to evaluate and manipulate these relationships in decision contexts. Together, these capabilities enable individuals to interpret how location influences outcomes and apply that understanding in analytical and managerial settings. This suggests that effective instructions must develop both conceptual understanding of place and the ability to apply it in an analytical setting (Ritchie et al., 2023).

This editorial argues that location analytics is missing a foundation in how we teach business decision-making. At its core, location analytics is not defined by tools or platforms, but by the ability to incorporate spatial context (e.g., proximity, distribution, interaction, and scale) into analytical reasoning (Erskine et al., 2024; Tripp et al., 2025). In this sense, location analytics is less a technical capability and more a way of thinking about how data relates to place and decision contexts.

These considerations are already embedded in many IS domains, including supply chains, cybersecurity risk, customer behavior, and business intelligence, yet they often remain implicit, underexplored, and underdeveloped. Treating location as just another variable or visualization obscures its role as a structuring force in decision environments. As organizations increasingly integrate location into automated and predictive systems, the ability to reason about space becomes essential rather than optional (Tripp et al., 2025).

Preparing students for modern decision environments, therefore, requires more than teaching yet another technology. It requires making spatial reasoning an explicit and integral part of the IS curriculum. If spatial reasoning is essential for interpreting data and supporting decisions, the next question is why it remains underdeveloped in IS education. The issue is not simply absence, but how location analytics has been introduced and positioned within curricula. Understanding this requires examining how spatial content is currently taught across IS programs.

2. FRAGMENTATION: HOW WE GOT HERE

A key reason spatial reasoning remains underdeveloped in IS education is the fragmented way in which location-related content is introduced. While many business decisions involve spatial considerations, instruction rarely presents them within a coherent analytical framework.

When location analytics appears in IS curricula, it is often introduced in isolated contexts, marketing courses, geospatial programming, spatial statistics, or, more recently, AI applications. These components are rarely connected. Students develop discrete technical skills, often through project-based exercises, but do not learn how these pieces fit together to support decision-making (Wiechetek, 2018). As a result, they accumulate exposure without developing a unified understanding of how spatial concepts inform business problems.

This fragmentation is reinforced by how spatial content is taught across courses. Instruction often emphasizes discrete technical tasks (e.g., using GIS platforms, writing geospatial code, or generating maps) without connecting these activities to broader decision processes. While these skills are valuable, they are typically developed in isolation, limiting students' ability to interpret spatial relationships such as distance, proximity, clustering, and scale within a business context. Students learn how to produce spatial outputs, but not how to incorporate spatial structure into problem formulation or solution design.

Prior research shows that project-based GIS instruction can effectively build technical competencies. However, these experiences often remain focused on tool use rather than on integrating spatial reasoning into broader business decision-making (Wiechetek, 2018). This reflects a longstanding pattern in GIS education within business disciplines, where early work similarly identified challenges in embedding spatial reasoning into broader decision frameworks (Heywood & Petch, 1991). Even when GIS is introduced into business courses, it is typically implemented at the course level rather than as part of a coordinated curricular strategy (Gadish, 2006; Miller et al., 2006).

Fragmentation also appears at the program level. Location analytics and GIS are often treated as an elective or a niche topic, rather than a core component of IS education (Chimgee et al., 2019). Spatial reasoning is not reinforced across courses, limiting students' ability to apply it in varied contexts.

This reflects a bigger issue. Location is not fully embedded in how IS is taught, even though the discipline centers on supporting problem-solving and decision-making through systems thinking. Spatial context is rarely incorporated into a core part of decisions and is often introduced late or not at all. This creates a disconnect between IS education and practice. Organizations already use location in dashboards, predictive models, and AI-enabled systems, yet students are not trained to reason about these spatial dimensions. This limitation is particularly evident in domains such as supply chain management, where spatially grounded decision-making is central in practice but often absent from structured curricular experiences (Ritchie et al., 2023). Over time, this results in graduates who are technically capable yet underprepared to recognize when and how spatial context should influence business solutions and decision-making.

Overall, the issue is not a lack of tools, but a lack of integration. Without a clear way to connect spatial reasoning to decision-making, location analytics remains isolated, scattered, fragmented, and tool-focused. Addressing this fragmentation requires a more intentional integration of spatial reasoning across courses, concepts, and decision contexts.

3. RECOGNISING THE ROLE OF LOCATION IN IS EDUCATION

Addressing fragmentation requires more than adding new tools or courses. It requires the role of spatial reasoning within IS education and identifying the concepts that enable students to support location in analytical and decision-making processes. When an IS faculty member considers incorporating location analytics, the focus often shifts to tools such as GIS platforms or GeoAI applications. However, effective instructions require prioritizing spatial concepts that shape how organizations operate, make decisions, and compete, rather than emphasizing software features alone. This shift moves location analytics from a technical add-on to the core component of analytical reasoning.

Two primary challenges are preventing IS curricula from elevating location analytics. First, IS faculty are not typically trained in spatial concepts during their doctoral or postdoctoral work, and even less so in how to teach them, although there is gradual improvement (Erskine et al., 2024; Pick, 2021). Second, structured, application-driven exercises provide one mechanism for lowering this barrier by allowing instructors to introduce spatial reasoning through familiar business contexts rather than requiring deep GIS specialization (Ritchie et al., 2023). These approaches allow faculty to build confidence while grounding instruction in decision-relevant applications.

A key step is identifying the core spatial concepts to emphasize. For GIS, these include geographic scale, units of analysis, and spatial layers and overlay. For location analytics, relevant concepts include proximity, relatedness, spatial variations, and contextual relationships. At the organizational level, spatial reasoning extends to concepts such as spatial maturity, spatial competitiveness, and ethical implications of location-based decision-making (Horan et al., 2022). Together, these concepts provide a structured framework for connecting technical capabilities with organizational decision-making and strategic outcomes.

When teaching GIS and location analytics in IS courses, GIS software and AI services can be incorporated into hands-on demos and exercises to illustrate these principles. However, without prior conceptual grounding, such exercises risk becoming mechanical; students may successfully produce the output without understanding the underlying “what, why, and how” (Wiechetek, 2018). Learning designs that integrate contextual and location-based analytics help overcome this limitation by embedding spatial analysis within authentic decision-making environments (Pishtari et al., 2019). Exercises positioned within decision contexts help students interpret spatial outputs rather than simply generate them.

At the curricular level, integrating GIS and location analytics requires intentional program design, including decisions about when and how spatial content is introduced and how it connects to the core IS competencies (Chimgee et al., 2019). This requires coordination across courses so that spatial concepts are introduced, reinforced, and applied progressively rather than appearing in isolation. This editorial emphasizes the interconnectedness among fragmented concepts, curricular development, ethical reasoning for place, and the leveraging of traditional IS theories and concepts, explaining how they extend to the teaching of location analytics and GIS content in IS curricula. In doing so, it positions spatial thinking as a cross-cutting competency spanning analytics, systems design, and organizational decision-making. This also mirrors the layered competencies described in IS curriculum frameworks, such as ACM/AIS IS2020 Curriculum Guidelines (Leidig & Salmela, 2020), which advocate integrating domain-specific analytical thinking across courses rather than isolating it in electives. This ensures that students develop not only technical proficiency, but also higher-order analytical judgment required for modern IS decision-making. Furthermore, treating location analytics as a threshold concept (Meyer & Land, 2005) highlights the need for repeated cross-course engagement rather than one-off exposure. Such concepts, once mastered, can reshape students' understanding of the relationships among data and system behavior.

Challenges in integrating GIS and location analytics are further shaped by perceptions of these technologies within IS education. When treated as a specialized or tool-intensive topic, it can appear to require dedicated courses, advanced software, or technical expertise. However, many IS domains already incorporate spatially relevant concepts, including dashboards, supply chains, marketing, cybersecurity risk, and customer behavior. Making these spatial dimensions explicit allows location analytics to be integrated into existing courses without substantial restructuring. Instructional approaches that embed spatial reasoning within familiar decision contexts, supported by modular content and flexible delivery formats, demonstrate that integration can occur incrementally while still supporting meaningful learning outcomes (Miller et al., 2006; Vaz, 2024).

At the same time, organizations are increasingly embedding location into automated and predictive systems, with AI accelerating this trend. As a result, students will encounter spatially informed operations and decisions, whether these concepts are explicitly taught. Preparing students, therefore, requires not only technical proficiency but the ability to recognize how spatial assumptions influence analytical outputs and decision outcomes. This need for conceptual clarity and curricular integration motivates the development of a more coherent model for teaching location analytics, which we introduce next.

4. A COHERENT MODEL FOR TEACHING LOCATION ANALYTICS IN BUSINESS SCHOOLS

We present a layered curricular model for integrating spatial reasoning into IS education in a structured and scalable manner. The model is organized around three interrelated layers: IS foundations, a spatial reasoning layer, and spatially informed business decision-making. These layers are designed to be built progressively, enabling students to move from recognizing spatial elements in data to applying spatial reasoning in complex decision-making environments. The model is supported by problem-centered learning, mentorship, and cross-course integration, and is compatible with hybrid and online delivery formats (Vaz, 2024).

At the base of the framework, IS foundations, statistics, databases, programming, and visualization provide the technical and analytical grounding. These competencies support the collection, structuring, and analysis of data. Within this model, these foundational skills are applied through spatial reasoning, which shapes how location-based relationships are incorporated into analytical workflows (Wiechetek, 2018).

The spatial reasoning layer sits at the center of the model. It is built on four key ideas: proximity, scale, context, and interaction. These concepts help students understand how location affects business problems, how data should be interpreted, and how different places are connected. Spatial reasoning links core analytical tasks, such as data preparation, modeling, and interpretation, to the problem's spatial structure. In doing so, it connects foundational skills to decision-making without requiring separate, tool-specific instruction.

At the top of the framework, spatially informed business decision-making represents the outcome of learning. At this stage, location is directly incorporated into models, dashboards, and decision support systems. Students learn to evaluate how location influences performance, recognize tradeoffs across areas, and understand how decisions in one place can affect outcomes in another (Pishtari et al., 2019; Ritchie et al., 2023).

The second layer situates location analytics within applied business problems. Spatial concepts are introduced through decision contexts in which outcomes vary across locations, requiring students to interpret patterns, evaluate trade-offs, and compare alternative scenarios. This approach connects analytical techniques to managerial reasoning and supports a multi-perspective understanding of spatially grounded decisions (Pishtari et al., 2019; Ritchie et al., 2023).

The third layer connects these competencies to spatially informed decision systems and AI-enabled environments. At this stage, spatial reasoning is embedded within predictive models, dashboards, and automated decision processes. Students engage with systems in which spatial assumptions influence model behavior, recommendations, and downstream outcomes, including considerations of bias and governance.

Figure 1 illustrates how these components are connected. Spatial reasoning operates as a central layer between IS foundations and decision-making, linking analytical skills with applied contexts. The bidirectional structure of the model emphasizes that learning is iterative: insights from decision contexts inform analytical approaches, while foundational competencies support more advanced reasoning and system design.

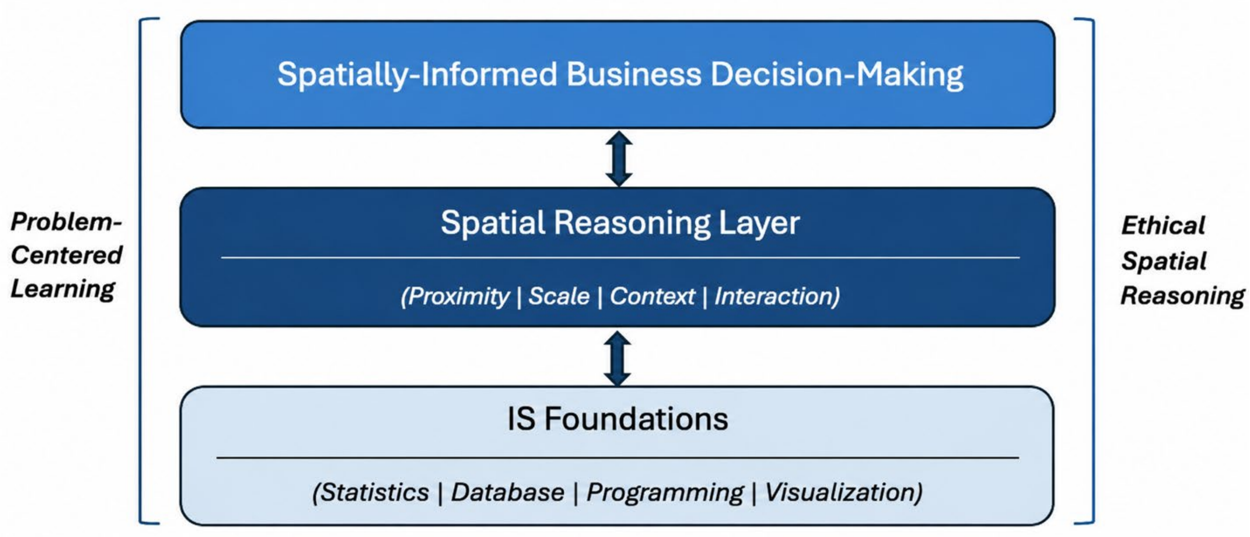


Figure 1. A Layered IS Curriculum Framework for Location Analytics

Problem-centered learning and ethical spatial reasoning run across the entire model. Problem-centered learning situates spatial analysis in real business contexts, helping students understand how their analysis connects to actual decisions. Ethical spatial reasoning encourages students to consider fairness, bias, privacy, and the impact of decisions across different locations.

Curriculum Layer	Instructional Focus	Role of Spatial Reasoning	Typical IS Components	Illustrative Learning Activities
IS Foundations	Developing core IS competencies while introducing spatial awareness in data	Spatial context shapes how data are structured, interpreted, and analyzed	Statistics, databases, programming, and visualization	Identifying spatial variables; applying proximity measures; examining effects of scale and aggregation
Spatial Reasoning Layer	Using spatial concepts to structure and interpret business problems	Spatial reasoning (proximity, scale, context, interaction) guides problem framing, model design, and interpretation	Business analytics, supply chain management, marketing, risk analysis	Analyzing geographic demand patterns; evaluating network or site alternatives; comparing outcomes under different location assumptions
Spatially Informed Business Decision-Making	Embedding spatial logic within analytical and decision systems	Spatial assumptions influence model behavior and downstream decisions	Dashboards, decision support systems, predictive models, analytics platforms	Designing spatially informed decision systems; evaluating spatial bias; considering ethical and governance implications

Table 1. Translating the Layered Model Into Instructional Design

Table 1 explains how the layered framework shown in Figure 1 can be applied in teaching. It connects each curriculum layer to what should be taught, how spatial reasoning is used, and the types of learning activities students can engage in. The structure shows a progression, starting with core IS skills, moving to the use of spatial reasoning in business problems, and then extending to its use in decision systems. By aligning the table with the layered model, it becomes easier to see how spatial reasoning acts as the link between technical skills and decision-making. This progression helps students move from simply recognizing spatial elements in data to using them in more complex analytical and managerial situations.

5. PREPARING STUDENTS FOR SPATIAL BUSINESS DECISIONS

As location analytics becomes embedded in business decision systems, it raises additional ethical and societal questions. Spatial data is inherently tied to people, communities, infrastructure, and movement, meaning that spatially informed decisions often influence access, opportunity, privacy, and exposure to risk (Mason, 1986). These implications arise because spatial decision-making is rarely neutral. Decisions about where resources are allocated, where services are provided, and how operations are structured across locations can produce uneven outcomes across populations. For example, site selection influences which communities gain access to services, logistics decisions affect delivery speed and coverage, and risk models shape pricing, investment, and prioritization. Similarly, applications such as predictive policing, fraud detection, and cybersecurity monitoring rely on spatial patterns that can concentrate attention on specific locations, reinforcing existing patterns of advantage or disadvantage. Incorporating multi-stakeholder perspectives into learning environments helps make these effects more visible, allowing students to examine how spatial decisions impact different groups (Pishtari et al., 2019).

These characteristics introduce ethical concerns that are amplified in spatial contexts. Privacy risks increase when data includes detailed location traces, movement patterns, or identifiable places such as homes and workplaces. Surveillance concerns arise when location data is used to monitor behavior without clear transparency. Bias and inequity may also emerge when spatial variables act as proxies for income, race, or historical patterns of investment and disinvestment. While redlining is a well-known historical example, similar patterns can still appear today when location data is used without careful consideration. In such cases, spatial data can indirectly reflect sensitive attributes, even if those attributes are not explicitly included in the model.

For IS education, this shifts how responsibility should be approached. Ethical reasoning cannot be treated as a separate or final step; it must be embedded in how spatial problems are defined, analyzed, and interpreted. Students should be encouraged to evaluate not only model accuracy, but also how outcomes are distributed across locations and populations. Questions such as who benefits, who is disadvantaged, and how data was collected and used should be treated as part of standard analytical practice.

Information systems curricula focus on responsible data use, privacy, security, and fairness. Location analytics compounds these concerns because location data can reveal identities and influence who has access to resources. Preparing students for spatial business decision-making, therefore, requires integrating technical skills, spatial reasoning, and ethical awareness. Students must understand how spatial data is used and recognize its implications for decision-making. The objective is to ensure that spatial models and maps are understood not as neutral representations, but as tools that influence real-world outcomes.

6. CONCLUSION

Location analytics is no longer a peripheral capability in business; it is embedded in how organizations analyze data, design systems, and make decisions. Yet, in IS education, its development remains fragmented. Spatial concepts are introduced inconsistently, often isolated within tools, courses, or applications, without a coherent connection to decision-making. This fragmentation limits students' ability to recognize when and how location shapes outcomes.

This editorial argues that the issue is not the availability of tools or data, but the lack of integration. Reducing fragmentation requires a shift from isolated exposure to a structured approach that connects foundational skills, spatial reasoning, and decision contexts. The layered framework presented in this paper offers a clear path forward by positioning spatial reasoning as the link between data and decision-making.

In doing so, it enables location analytics to be embedded within existing IS curricula without requiring extensive restructuring.

From a pedagogical perspective, the framework put forward in this editorial aligns with constructivist learning theory, which emphasizes that learners build deeper understanding when new concepts are connected to prior knowledge and applied in authentic contexts (Vygotsky, 1978). Spatial reasoning is therefore not a standalone technical skill but a cognitive practice that develops through iterative engagement, reflection, and problem solving. Kolb's (1984) experiential learning theory reinforces the point that deep learning develops through a four-stage cycle of concrete experience, reflective observation, abstract conceptualization, and active experimentation. When spatial reasoning is taught only through isolated tools or one-off GIS modules, students engage in only fragments of Kolb's cycle, limiting the development of robust analytical capability. In addition, situated learning, i.e., learning by doing (Lave & Wenger, 1991), highlights the importance of solving business problems using spatial data and analysis rather than "mechanically" through standalone tasks.

The framework also aligns with scaffolding principles (Bruner, 1960), in which the curriculum gradually increases in complexity, beginning with basic spatial concepts, progressing through analytical techniques, and culminating in strategic decision-making scenarios. This aligns closely with Bloom's revised taxonomy (Anderson & Krathwohl, 2001), which moves learners from foundational cognitive processes – remembering and understanding towards higher-order capabilities such as analyzing, synthesizing, evaluating, and creating. For location analytics, this means that students must first acquire essential spatial vocabularies and concepts, then apply spatial techniques and tools, before advancing to synthesizing spatial patterns or system behaviors and critiquing solutions. When location analytics is taught only as a technical add-on, students rarely progress beyond the lower levels of the taxonomy. A coherent, integrated curriculum – supported by scaffolding, experiential learning cycles, and repeated exposure to authentic IS problems – enables learners to move systematically through Bloom's hierarchy. This ensures that spatial reasoning becomes not just a technical skill, but a higher-order analytical capability embedded in decision-making and system design.

Preparing students in this way enables IS education to develop graduates who understand and apply the impact of location in analysis and system design. Integrating spatial reasoning into IS education is not about adding another topic. It is about aligning how we teach analytics with how decisions are made in practice. Doing so strengthens the relevance of IS programs and better prepares students for a business environment in which understanding "where" is essential to understanding "what" and "why."

7. REFERENCES

Anderson, L. W., & Krathwohl, D. R. (Eds.) (2001). *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. Longman.

Bruner, J. S. (1960). *The Process of Education*. Cambridge, MA: Harvard University Press. https://doi.org/10.4159/9780674028999

Chimgee, D., Bolor, A., Enerel, A., Erdenechimeg, J., & Oyunsuren, S. (2019, March). Integrating GIS Into Business School Curricula. In *Proceedings of the 8th International Conference on Educational and Information Technology* (pp. 217-221). https://doi.org/10.1145/3318396.3318436

Erskine, M. A., Pick, J. B., Satpathy, A., Díaz López, A., Sarkar, A., & Shin, N. (2024). Location Analytics in Information Systems: Opportunities for Research and Teaching. *Communications of the Association for Information Systems*, 55(1), 535-565. https://doi.org/10.17705/1CAIS.05521

Estaville, L. (2007). GIS and Colleges of Business: A Curricular Exploration. *Journal of Real Estate Literature*, 15(3), 441-448. https://doi.org/10.1080/10835547.2007.12090209

Gadish, D. (2006). Introducing GIS for Business in Higher Education. *International Journal of Information and Communication Technology Education*, 2(2), 62-70. https://doi.org/10.4018/jicte.2006040106

Goodchild, M. F. (2007). Citizens as Sensors: The World of Volunteered Geography. *GeoJournal*, 69(4), 211-221. https://doi.org/10.1007/s10708-007-9111-y

Heywood, D. I., & Petch, J. R. (1991). GIS Education: A Business Perspective. *Cartographica: The International Journal for Geographic Information and Geovisualization*, 28(3), 10-22. https://doi.org/10.3138/9637-5831-51Q8-R231

Horan, T. A., Pick, J. B., & Sarkar, A. (2022). *Spatial Business: Competing and Leading With Location Analytics*. Redlands, CA: Esri Press.

Johnson, M. L. (1996). GIS in Business: Issues to Consider in Curriculum Decision-making. *Journal of Geography*, 95(3), 98-105. https://doi.org/10.1080/00221349608978700

Kidman, G., & Palmer, G. (2006). GIS: The Technology Is There but the Teaching Is Yet to Catch Up. *International Research in Geographical and Environmental Education*, 15(3), 289-296. https://doi.org/10.2167/irgee196i.0

Kolb, D. A. (1984). *Experiential Learning: Experience as the Source of Learning and Development*. London: Prentice Hall.

Lave, J., & Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation*. Cambridge University Press. https://doi.org/10.1017/CBO9780511815355

Leidig, P., & Salmela, H. (2020). IS2020: *A Competency Model for Undergraduate Programs in Information Systems*. Association for Computing Machinery.

Mason, R. O. (1986). Four Ethical Issues of the Information Age. *MIS Quarterly*, 10(1), 5-12. https://doi.org/10.2307/248873

Meyer, J. H. F., & Land, R. (2005). Threshold Concepts and Troublesome Knowledge (2): Epistemological Considerations and a Conceptual Framework for Teaching and Learning. *Higher Education*, 49, 373-388. https://doi.org/10.1007/s10734-004-6779-5

Miller, F., Mangold, W. G., & Holmes, T. (2006). Integrating Geographic Information Systems (GIS) Applications Into Business Courses Using Online Business Geographics Modules. *Journal of Education for Business*, 82(2), 74-79. https://doi.org/10.3200/JOEB.82.2.74-79

National Research Council. (2006). *Learning to Think Spatially: GIS as a Support System in the K–12 Curriculum*. Washington, DC: National Academies Press.

Pick, J. B. (2021). GIS&T in Business. In J. P. Wilson (Ed.), The Geographic Information Science & Technology Body of Knowledge (4th Quarter 2021 ed.). University Consortium for Geographic Information Science. https://doi.org/10.22224/gistbok/2021.4.6

Pishtari, G., Rodríguez-Triana, M. J., & Väljataga, T. (2019). Multi-Stakeholder Analytics for Learning Design: A Case Study of Location-Based Tools. In *World Conference on Mobile and Contextual Learning* (pp. 94-101).

Ritchie, W. J., Kerski, J., Novoa, L. J., & Tokman, M. (2023). Bridging the Gap Between Supply Chain Management Practice and Curriculum: A Location Analytics Exercise. *Decision Sciences Journal of Innovative Education*, 21(2), 83-94. https://doi.org/10.1111/dsji.12286

Shepherd, I. D. (2009). From Geography Department to Business School: Strategies for Transplanting GIS Courses Between Disciplines. *Journal of Geography in Higher Education*, 33(S1), S28-S45. https://doi.org/10.1080/03098260903034038

Tripp, J., Wimble, M., & Shortridge, A. M. (2025). Advancing the Third Wave of Geospatial Analytics in IS Research Through Spatially Explicit Theory and Methods. *Communications of the Association for Information Systems*, 57(1), 812-846. https://doi.org/10.17705/1CAIS.05736

Vaz, E. (2024). Integrating GIS in Business Education: Bridging Distance Learning and Spatial Analytics for Future Professionals. In *Regional Knowledge Economies: Exploring the Intersection of Technology, Geography, and Innovation in the Digital Era* (pp. 145-156). Cham: Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-76906-1_11

Vygotsky, L.S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press.

Wiechetek, Ł. (2018). How Business Students Gain Knowledge and Skills on Geographic Information Systems: The Results of GIS Project Development. *Annales Universitatis Mariae Curie-Skłodowska, Sectio H Oeconomia*, 52(5), 81-94. https://doi.org/10.17951/h.2018.52.5.81-94

Journal of Information Systems Education, 37(3), 436-447, Summer 2026
https://doi.org/10.62273/NFUU7723

AUTHOR BIOGRAPHIES

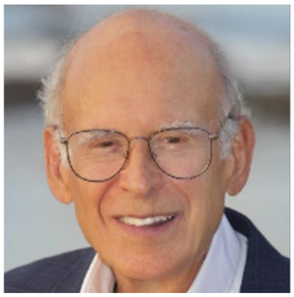
Anthony Corso is a Professor in the Department of Computing, Software, and Data Sciences at California Baptist University. His professional career was exemplified by positions at Apple Computer, Silicon Graphics, and Vitria Technology. Job roles include Instructional Design, Technical Training, System Administration, and Entertainment Marketing. His research integrates social media, geographic information systems, machine learning, and natural language processing to develop predictive systems. This innovative approach enhances predictive capabilities by integrating social media data into the design, analysis, and evaluation phases. With over fifteen years dedicated to unraveling the intricacies of real-world event prediction, Dr. Corso has developed profound expertise in spatial analysis, data analysis, and social behavior.

Michael A. Erskine is an Associate Professor and Assistant Dean of Research at Middle Tennessee State University. He received his Ph.D. from the University of Colorado Denver. His research interests include effective IT project governance, the influence of emerging technology on society, IT workforce trends, and decision-making using geospatial data. He has published his work in various academic journals, including *Information Systems Journal*, *Communications of the AIS*, *The Date Base for Advances in Information Systems*, *Information Systems Frontiers*, *International Journal of Human-Computer Interaction*, *Computers in Human Behavior*, *Journal of Consumer Marketing*, and *Journal of Computer Information Systems*.

Dan Farkas is a Professor of Information Systems in the Information Technology Department at Pace University. He is the founder of the AIS Special Interest Group on GIS (SIGGIS). His research interests include interdisciplinary applications of GIS in Conservation Biology and Criminal Justice. He has given tutorials and workshops on Networking, Linux Administration, and GIS concepts nationally and internationally for over 35 years. Interdisciplinary at heart, he holds a BA in History, an MS in Computer Science, and a Ph.D. in Educational Technology from New York University. Supporting his interest and research in Environmental Conservation, he has an MS in Environmental Science and Policy from Johns Hopkins University.

Namchul Shin is a Professor of Information Systems at the Seidenberg School of CSIS, Pace University. He holds a Ph.D. in Management (specialization in MIS) from the University of California at Irvine. His current research focuses on IT value, environmental sustainability, open data, geographic information systems (GIS), and nonprofit organizations, with publications in top journals including *Nature* and *Science*. He co-founded AIS SIGGIS and has organized conference workshops and minitracks. He served as Faculty Fellow at Pace University's Provost's Office and Wilson Center for Social Entrepreneurship.

Joy Garfield holds a Ph.D. in Informatics from the University of Manchester, UK. She is a Senior Teaching Fellow and Deputy Head of Department for Business Analytics and Information Systems at Aston Business School, Aston University, UK. With over 20 years of experience in academia in teaching, research, and management, Joy is a Senior Fellow of the Higher Education Academy. Joy is currently a member of the Governing Council of the Society for Research into Higher Education and an external examiner for the University of Westminster Tashkent, Uzbekistan.



James Pick is a professor at the University of Redlands in the School of Business and Society. He is the founding and current director of the university's Center for Spatial Business, and past chair of the Department of Management and Business and the School's faculty assembly. He is author or co-author of over 195 journal articles, book chapters, and peer-reviewed papers in MIS, GIS, population, and urban studies, and fifteen books, including *The Global Digital Divides* (Springer, 2015), *Spatial Business* (Esri Press, 2022), and *Global Digital Divides in the COVID-19 Era: Purposeful Use of the Internet and Technologies* (De Gruyter, 2026). He is a senior editor of *Information Technology for Development.* He is a recipient of the Senior Fulbright Scholar Award for Mexico, the Outstanding Alumni Award from Northern Illinois University, and 10 awards from the University of Redlands. He holds a B.A. from Northwestern University, an M.S.Ed. from Northern Illinois University, and a Ph.D. from the University of California, Irvine.

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, spatial analytics, and machine learning for decision support, with applications in urban gun violence, homelessness risk, public safety, national security, and health equity. He has conducted a Department of Defense–supported study on drone-related airspace vulnerabilities and is developing multi-city models of structural risk 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*.

Xihui "Paul" Zhang is a Professor of Computer Information Systems in the Sanders College of Business and Technology at the University of North Alabama in Florence, AL. He received his B.S. and M.S. degrees in Earth Sciences from Nanjing University (1993, 1996), Nanjing, China, and his M.S. and Ph.D. degrees in Management Information Systems from the University of Memphis (2004, 2009), Memphis, TN. His work has appeared in journals such as the *Journal of Strategic Information Systems*, *Information & Management*, *Journal of Database Management*, *Journal of Computer Information Systems*, and *ACM Transactions on Software Engineering and Methodology*. He is currently the Editor-in-Chief of *Journal of Information Systems Education*.

INFORMATION SYSTEMS & COMPUTING ACADEMIC PROFESSIONALS

STATEMENT OF PEER REVIEW INTEGRITY

All papers published in the ***Journal of Information Systems Education*** have undergone rigorous peer review. This includes an initial editor screening and double-blind refereeing by three or more expert referees.

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