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In the current information era, all aspects of society—from scientific research and economic planning to cultural practices and daily decision-making—are increasingly driven by data, information, and knowledge systems. The quality of our information infrastructure hinges not only on access to data but on the integrity, structure, and interpretability of that data, including its origin, completeness, classification, and transformation into higher-level knowledge. As such, the fields of Information Visualization, Analytics, and Machine/Deep Learning—underpinned by Artificial Intelligence (AI) advances—have become indispensable to how we interrogate, represent, and utilize data at scale. AI-enabled visualization represents a critical convergence of computational intelligence and human cognitive insight. These systems can discover latent structures, reveal non-obvious correlations, and enable intuitive interaction with complex, high-dimensional data. They now form the cornerstone of automated and semi-automated knowledge discovery pipelines, with increasing influence on strategic decision-making in science, policy, and industry. This transformation is not merely technological but epistemological, reshaping how knowledge is created, validated, and communicated. As data becomes increasingly heterogeneous, dynamic, and uncertain, a key research challenge is modelling uncertainty and risk throughout the data-to-knowledge lifecycle. Visualization—especially with AI—is vital in rendering uncertainty intelligible, making patterns and anomalies more interpretable, and supporting real-time exploration in complex domains. The evolution of this field thus reflects a broader shift toward explainable, interactive, and human-centric AI systems. The 29th International Conference on Information Visualization (IV2025), coupled with the 6th International Conference on AI & Visualization, highlights these developments and presents a curated selection of peer-reviewed papers exploring the frontiers of AI-driven visual analytics, interactive systems, human-computer interaction, and domain-specific applications. This year's contributions represent over 100 institutions from 20+ countries, collectively showcasing contemporary visualization research's vitality and interdisciplinary nature. A key feature of IV2025 is the introduction of the Researchers Link initiative—an interdisciplinary design workshop focused on aligning AI and visualization research with the United Nations 2030 Sustainable Development Goals (SDGs). Facilitated in collaboration with Darmstadt University of Applied Sciences and coordinated by an international cohort of senior researchers, this initiative invites early-career and established academics to co-develop fundable research proposals during the conference. This model of embedded research generation reflects a growing emphasis on translational impact and cross-sector collaboration. Collectively, the contributions to this volume illustrate the dynamic state of the field, where data visualization, augmented by AI, continues to redefine both technical and societal boundaries. As we advance into the era of intelligent systems, the challenge is not only to innovate but to ensure that these innovations remain interpretable, ethical, and inclusive.