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Comparative visual analytics for multi-modal single-cell and spatial omics data

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Citation

Basu, S. (2026, September 15). *Comparative visual analytics for multi-modal single-cell and spatial omics data*. Retrieved from <https://hdl.handle.net/1887/4310004>

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Comparative Visual Analytics for Multi-Modal Single-Cell and Spatial Omics Data

Soumyadeep Basu

Colophon

About the cover:

The front cover of this thesis features a human brain outline forming a border. Within this outline, a node-link diagram connects multiple nodes, each color-coded to correspond to a specific brain region. This visualization reflects the brain-related data examined in this work. Inside the brain outline, icons representing twenty-five mammalian species highlight the comparative focus of the thesis, which involves analyzing brain datasets across different species. Additional icons depicting charts and visual analytics tools, such as graphs and boards, emphasize the development and application of visual analytic methods throughout the research.

The back cover presents an abstract representation of a DNA strand, symbolizing the analysis of gene expression data across species.

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Soumyadeep Basu

Thesis layout & cover designed by Soumyadeep Basu
with design suggestions from Thomas Kroes.

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Comparative Visual Analytics for Multi-Modal Single-Cell and Spatial Omics Data

Proefschrift

ter verkrijging van
de graad van doctor aan de Universiteit Leiden,
op gezag van rector magnificus prof.dr. S. de Rijcke,
volgens besluit van het college voor promoties
te verdedigen op dinsdag 15 september 2026
klokke 10:00 uur

door

Soumyadeep Basu
geboren te Kolkata, West-Bengalen, India
in 1993

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The research presented in this thesis was conducted in the Netherlands at the Division of Image Processing (LKEB), Department of Radiology at Leiden University Medical Center, and the Computer Graphics and Visualization (CGV) group within the Department of Intelligent Systems, Faculty of Electrical Engineering, Mathematics and Computer Science, at Delft University of Technology. It was financially supported by the NWO TTW project 3DOMICS (NWO project number 17126) and the NWO Gravitation project BRAINSCAPES: A Roadmap from Neurogenetics to Neurobiology (NWO project number 024.004.012).

“Arise, awake, and stop not till the goal is reached.”

SWAMI VIVEKANANDA

Dedicated to my parents

RUPASRI BASU AND SATYAJIT BASU

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