Di Zhu

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EDUCATION

2014 – Now **Ph.D. Candidate** Cartography and Geographic Information Science.
Institute of Remote Sensing and Geographical Information Systems, Peking University.

2017 – Now **Research Assistant**
School of Earth and Space Sciences, Peking University.

2010 – 2014 **B.S.** Geographic Information Systems.
School of Earth and Space Sciences, Peking University.

2011 – 2014 **B.S.** Economics.
National School of Development, Peking University.

ACADEMIC EXPERIENCES

Peer-reviewed Journal Papers

1 Zhu, D., Huang, Z., Shi, L., Wu, L., & Liu, Y. (2018). Inferring spatial interaction patterns from sequential snapshots of spatial distributions. *International Journal of Geographical Information Science*, *4*(32), 783–805. SCI/SSCI.
https://doi.org/10.1080/13658816.2017.1413192

2 Zhu, D. & Liu, Y. (2018a). Modelling irregular spatial patterns using graph convolutional neural networks (in progress). *arXiv preprint*, arXiv:1808.09802.
https://arxiv.org/abs/1808.09802

3 Yao, X., Zhu, D., Gao, Y., Wu, L., Zhang, P., & Liu, Y. (2018). A stepwise spatio-temporal flow clustering method for discovering mobility trends. *IEEE Access*, 1–1. SCI.
https://doi.org/10.1109/ACCESS.2018.2864662

4 Zhang, S., Zhu, D., Yao, X., Cheng, X., & Liu, Y. (2018). The scale effect on spatial interactions: an empirical study using taxi o-d data of beijing and shanghai). *IEEE Access*. SCI, corresponding author and co-first author (accepted).

5 Zhu, D., Wang, N., Wu, L., & Liu, Y. (2017). Street as a big geo-data assembly and analysis unit in urban studies: a case study using beijing taxi data. *Applied Geography*, *86*, 152–164. SSCI. https://doi.org/10.1016/j.apgeog.2017.07.001

6 Zhu, D. & Liu, Y. (2017). An incremental map-matching method based on road network topology. *GEOMATICS AND INFORMATION SCIENCE OF WUHAN UNIVERS*, *42*(1), 77–83. EI. http://ch.whu.edu.cn/CN/10.13203/j.whugis20150016

7 Liu, Y., Zhan, Z., Zhu, D., Chai, Y., Ma, X., & Wu, L. (2018). Incorporating multi-source big geo-data to sense spatial heterogeneity patterns in urban space. *GEOMATICS AND INFORMATION SCIENCE OF WUHAN UNIVERS*, *43*(3), 327–335. EI.
https://doi.org/10.13203/j.whugis20170383

8 Zhu, D., Cheng, X., Zhang, F., Gao, Y., & Liu, Y. (2018). Spatial interpolation based on conditional generative adversarial neural networks. *International Journal of Geographical Information Science*. SCI/SSCI,(under review).

9 Wu, L., Cheng, X., Kang, C., Zhu, D., Huang, Z., & Liu, Y. (2018). A framework for mixed use decomposition based on temporal activity signatures extracted from big geo-data. *International Journal of Digital Earth*. SSCI,(under review).

10 Zhu, D., Zhang, F., Ye, C., Wang, S., & Liu, Y. (2019). Linking place semantics with spatial configurations through graph-based knowledge reasoning. (in progress).

11 Zhu, D. (2019). Geographical reconstruction by adversarial learning of spatial dependence. (in progress).

Conferences

1 Zhu, D. & Liu, Y. (2018b). Modelling spatial patterns using graph convolutional networks (Short Paper). In *10th international conference on geographic information science (oral presentation)*. Dagstuhl, Germany. doi:10.4230/LIPIcs.GISCIENCE.2018.73

2 Zhu, D., Shi, L., Wang, Y., Cheng, X., & Liu, Y. (2017). Infer spatial interaction patterns from spatial distributions. In *The 25th international conference on geoinformatics (oral presentation)*.

3 Zhu, D., Wang, N., & Liu, Y. (2016). Street perspective: a novel spatial unit in urban social sensing. In *17th international symposium on spatial data handling (oral presentation)*.

4 Zhu, D. & Liu, Y. (2016). The distance effect in spatial interaction and spatial similarity: a big data view of tobler's first law. In *The 33rd international geographical congress (oral presentation)*.

PROJECTS

2017.01-2021.12 **National Science Fund for Distinguished Young Scholars (no. 41625003)**
Geo-spatial models and analytical methods (SI).

2017.07-2021.07 **The National Key Research and Development Program of China (no. 2017YFB0503600)**
Big geo-data mining and spatio-temporal pattern discovery (SI).

2015.01-2016.12 **National Natural Science Foundation of China (no. 41428102)**
Spatial optimizing of urban facilities to mitigate traffic congestion: a case study of Beijing (SI).

2013.01-2016.12 **National Natural Science Foundation of China (no. 41271386)**
Investigating human mobility pattern based on massive spatio-temporal data (SI).

AWARDS

2011 **54 Scholarship**, Peking University

2012 **Founder Scholarship**, Peking University

2014 **Longruan Scholarship**, Beijing LongRuan Technologies Inc.

2015 **Individual Scholarship for Outstanding Scientific Research**, Peking University

2016 **Special Academic Scholarship**, Peking University

2017 **Tang Lixin Scholarship**, Peking University

AWARDS (continued)

- **Research Assistant Scholarship**, Peking University

2018
- **Presidential Scholarship**, Peking University
- **State Scholarship Fund of China**, China Scholarship Council

RESEARCH INTERESTS

Social Sensing, Deep Learning, Spatial Analysis, Geographic Knowledge Retrieval, Human Mobility

SKILLS

Languages	Mandarin Chinese; Strong reading, writing, listening and speaking competencies for English.
Programming	Python, SQL, LaTeX, Pytorch, ASP.NET, Java, C/C#/Cpp, HTML, CSS, JavaScript, Processing.
Misc.	Graphic design, Photography, Modern drama creation.

REFERENCES

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