

# Dandong Yin

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## Education

- Exp. 2019 PhD (Geographic Information Science), *University of Illinois at Urbana-Champaign*
- 2017 M.S. (GIS), *University of Illinois at Urbana-Champaign*
- 2014 B.S. (GIS), *Peking University, China*
- 2014 B.S. (Economics), *Peking University, China*

## Journal Publication

- 2017 Yin, J., **Yin, D.**, Wang, S., “Delineate urban boundaries in Great Britain from the network of Twitter user spatial interactions”, *International Journal of Geographical Information Science*
- 2016 Ehlschlaeger, C. Browne, D., Myers, J., Burkhalter, N., Baxter, C., Gao, Y., **Yin, D.**, Hiatt, M. “From Data to Decision with Analytic Frameworks: Presenting Data Errors and Uncertainties for Operational Planning”, *Military Intelligence Professional Bulletin*
- 2015 **Yin, D.**, Du, S., Wang, S., Guo, Z., “A Direction-Guided Ant Colony Optimization Method for Extraction of Urban Road Information From Very-High-Resolution Images”, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*.

## Conference Proceedings

- 2017 Terstriep, J., Liu, Y., **Yin, D.** “Container Usage within CyberGIS”. Container Analysis Environment Workshop. August 14 - 16, 2017, Urbana, IL
- 2017 **Yin, D.**, Liu, Y. Y., Padmanabhan, A., Terstriep, J., Rush, J., Wang, S. (2017) “A CyberGIS-Jupyter Framework for Geospatial Analytics at Scale”. **Best Paper Finalist** The First Practice & Experience in Advanced Research Computing (PEARC) Conference, July 9 - 16, New Orleans, LA
- 2016 **Yin, D.** and Wang, S. “Sensing Spatial Structures through Large-scale Social Media”. *The Association of American Geographers 112nd Annual Meeting*, San Francisco, California, USA, March 29 – April 2, 2016
- 2016 Yin, J., Lu, B., **Yin, D.** and Wang, S. “A Scalable Visual-analytics Approach for Studying Mobility Networks: Revealing Hierarchical Structures in Taxi Mobility Flows of New York”, *International Conference on CyberGIS and Geospatial Data Science*, Urbana, Illinois, USA, July 26-28, 2016
- 2016 Casler, N., Soltani, K., Hu, H., Lu, B., **Yin, D.**, Liu, Y. and Wang, S., “Multigrid Framework for Large Scale Global Raster Analytics”, *International Conference on CyberGIS and Geospatial Data Science*, Urbana, Illinois, USA, July 26-28, 2016
- 2016 **Yin, D.**, Gao, Y., Ehlschlaeger, C., Zwicky, W., Burkhalter, J., Drigo M. “Geographic High Performance Computing for Demographic Analysis”, *GIS Day 2016*, University of Illinois, Urbana, IL, November 15, 2016

## Professional Experience

- Jul. 2017 **Visiting Scholar**, Key Laboratory for Natural Resources and Environment Information Systems, *Zhejiang University*, China
- 2017 **Guest Specialist**, College of BioSystems Engineering and Food Science, *Zhejiang University*, China
- 2017 **Invited Speaker**, Department of Geographic Information Science, *Central South University*, China
- 2017-present **Organizing Committee Member**, Agent-Based Modeling Webinar Series
  - 2017 **Guest Participants**, Agent-Based Modeling (ABM) 17: A Symposium That Advances the Science of ABM
- 2016-present **Peer Reviewer**, Computers, Environment and Urban Systems
- 2016-present **Peer Reviewer**, International Journal of Remote Sensing
  - 2016 **Student Attendee**, Graduate Workshop in Computational Social Science Modeling and Complexity, *Santa Fe Institute*
- 2014-present **Project Leader**, Cyberinfrastructure & Geospatial information laboratory, National Center for Supercomputing Applications, *University of Illinois at Urbana-Champaign*
  - Human mobility data mining from 1.3 TB social media data
  - Hadoop-based point-in-polygon library using quad-tree
  - Deployed Apache Spark on ROGER, the CyberGIS supercomputer
- 2013–2014 **Project Leader**, National Innovation Program for Undergraduates, *Peking University*, Beijing, China.
  - Developed a new algorithm for road detection in very-high-resolution image with heavy noise
- 2013 **Research Intern**, Department of Computer Science, *University of Calgary*, Alberta, Canada.
  - Lead development of a MATLAB library for studying convergence and divergence of component-wise interpolation with different kernel functions
- 2012–2013 **Project Leader**, Beijing Key Lab of Spatial Information Integration and 3S (Remote Sensing, GPS and GIS) Applications, *Peking University*, Beijing, China.

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## Teaching Experience

- Fall 2017 **Cloud Service Supporter**, provide cloud-based GIS platform services for multiple classes at University of Illinois at Urbana-Champaign
  - Advanced GIS: Geospatial Problem Solving (GEOG 479), Department of Geography and GIS
  - Big Data Empirical Economics (ACE 592), Department of Agriculture and Consumer Economics
- May. 2017 **Mentor**, UCGIS Summer School 2017 featuring Collaborative Problem Solving with CyberGIS and Geospatial Data Science, University of Illinois at Urbana-Champaign
- Mar. 2017 **Lecturer**, CyberGIS-Jupyter Workshop, Department of Geography and GIS, University of Illinois at Urbana-Champaign
- Jan. 2017 **Invited Lecturer**, Programming in GIS (GEOG 489), Department of Geography and GIS, University of Illinois at Urbana-Champaign
- Sep. 2016 **Invited Lecturer**, CyberGIS (GEOG 595), Department of Geography and GIS, University of Illinois at Urbana-Champaign

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## Selected Academic Projects

- 2016 Identifying and tracking trucks from video using convolution neural network with Google TensorFlow
  - Best solution to Caterpillar Inc. challenge.
- 2016 Image classification using convolution neural network on CIFAR-100 dataset
  - Top 3 in computer vision class competition
- 2014 **ShpSlicer**: a distributive P2P storage system for Shapefiles
  - Implemented map-reduce framework on geographical data with attributes
- 2013 **Hermes**: a cross-platform P2P instant messenger
  - Peer detection, messaging and file-transfer
- 2012 **Genus**: a desktop Cartography and GIS software
  - Implemented sets of computational geometry functionalities
  - Heterogeneous layer compilation and management
- 2012 **MapNote**: an Android app for multi-media geo-blogging
  - Associate texts, photos, audios and videos with real locations on map
  - Using SQLite database and Google Map API

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## Awards and Scholarships

- 2017 JupyterCon 2017 Student Scholarship (\$3,000)
- 2017 Student Travel Award (\$1,500), Practice & Experience in Advanced Research Computing (PEARC) Conference 2017
- 2017 Research Review Outstanding Poster Award, 3rd place in Geography and GIS, School of Earth, Society and the Environment Research Review, University of Illinois at Urbana-Champaign
- 2016 Microsoft Azure Data Science Research Award (\$20,000)
- 2016 Cash Prize Winner (\$10,000), Disparate Data Challenge hosted by National Geospatial Intelligence Agency
- 2016 Top 5%, TripAdvisor College Programming Challenge
- 2016 Summer Field Research Scholarship (\$1,000), Department of Geography and GIS, University of Illinois at Urbana-Champaign
- 2014 Outstanding Graduates, Peking University, China
- 2013 Wusi Scholarship, Peking University, China
- 2011 Merit Student, Peking University, China
- 2008 First Prize, National Olympiad in Informatics in Provinces, Zhejiang, China

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## Technical Skills

Language	C, C++, Java, Python, R, Bash, MATLAB, SQL, Scala, Ocaml, Lisp, Sed, Awk
Development	Qt, Android, Git, HTML + Javascript + CSS
HPC	MPI, OpenMP, Hadoop, Spark
AI	Scikit-learn, Tensorflow, MatConvNet
Writing	Markdown, L <sup>A</sup> T <sub>E</sub> X, Jupyter