

# Madhuri (Maddy) Siddula

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## Objective

Seeking a position as Assistant Professor in the area of computer science with research and teaching opportunities. Continue learning through research publications and conference presentations. Actively help students to enhance their knowledge and teach to connect, reach more students.

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## Research Interests

- Privacy and Security
- Big Data
- Data Mining
- Machine Learning
- Artificial Intelligence
- Image Processing
- Wireless Networks

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## Education

Expected May 2020	<b>Georgia State University</b> , Atlanta, GA Ph.D. in Computer Science Dissertation: "Privacy-preserving user data publication in social networks" Advisor: Dr. Yingshu Li and Dr. Zhipeng Cai GPA: 3.86/4.0
June 2012	<b>Indraprastha Institute of Information Technology Delhi</b> , New Delhi, India M.Tech. in Computer Science with specialization in information security Thesis: "Cryptanalysis of digital watermarking using SVM" Advisor: Dr. Somitra Sanadhya GPA: 7.9/10.0
June 2010	<b>Osmania University</b> , Hyderabad, India B.Tech. in Computer Science Project: "Digital imaging and COMMunication (DICOM) in medical industry" GPA: 82/100

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## Teaching Experience

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<b>Instructor</b>	<b>Web Programming</b> (SPRING 2018 and SPRING 2019)	GSU, Atlanta
	<ul style="list-style-type: none"><li>• Evaluated students individually and identified their areas of difficulty</li><li>• Tailored web-programming course to include recent technologies for students to help in their job search as a front-end developer</li><li>• Developed homework, project, and tests with industry requirements</li></ul>	
	<b>CS101</b> (FALL 2014 – SPRING 2016)	WVU, Morgantown
	<ul style="list-style-type: none"><li>• Developed exams, quizzes, and homework.</li><li>• Classes included undergraduate students from different majors and various experience levels</li><li>• Coordinated with other instructors of the same course and communicated with the course coordinator for the synchrony of the course structure.</li></ul>	
<b>Teaching Assistant</b>	<b>Sensor Networks and IoT</b> (FALL 2019)	GSU, Atlanta
	<ul style="list-style-type: none"><li>• Developed and delivered lab sessions using telos-b motes</li><li>• A tutoring session on mobile application development that is a part of data collection for the course project</li><li>• Grading tests and holding office hours</li></ul>	
	<b>Automata</b> (FALL 2018)	GSU, Atlanta
	<ul style="list-style-type: none"><li>• Developed and delivered lab sessions using telos-b motes</li><li>• Grading tests and holding office hours</li></ul>	
	<b>Data Mining</b> (FALL 2017)	GSU, Atlanta
	<ul style="list-style-type: none"><li>• Developed and delivered lab sessions using telos-b motes</li><li>• Developed and graded homework, and tests</li></ul>	
<b>Lab Instructor</b>	<b>Principles of computer science I &amp; II</b>	GSU, Atlanta
	<ul style="list-style-type: none"><li>• Developed and delivered lab sessions using java programming</li><li>• Grading lab sessions, tests, homework and holding office hours</li></ul>	
	<b>Systems Management</b>	IIITD, New Delhi
	<ul style="list-style-type: none"><li>• Helped develop course structure and content</li><li>• Handled hands-on labs with dismantling and assembling CPUs</li></ul>	
	<b>Digital Communications</b>	IIITD, New Delhi
	<ul style="list-style-type: none"><li>• Assisted in developing learning materials, and student progress trackers.</li><li>• Handled hands-on labs with sensors.</li><li>• Class comprised of students with electronics and computer science majors.</li></ul>	

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## Research Experience

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### Research Project Associate

IIT Hyderabad, India

- Worked on a project funded by the Government of India and KDDI Labs, Japan
- Developed a novel dynamic link aggregation scheme in LTE systems
- Worked along with other researchers from the department

### Research Assistant

WVU, Morgantown

- Worked for a project funded by NASA (WV EPSCoR research grant)
- Developed automatic detection of various objects from cluttered images
- Aim is to utilize deep learning and image processing tools for construction site images.

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## Professional Activities

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- Reviewer for research journals and conferences.
  - IEEE Transactions on Computational Social Systems
  - IEEE International Conference on Wireless Algorithms, Systems and Applications
  - ACM Transactions on Sensor Networks
  - IEEE Transactions on Network science and Engineering
- Mentored a master's student towards his project.
- Board Member (Treasurer) for the IEEE GSU student chapter.
- Worked as main coordinator for ACUMEN, a technical fest of our college in 2010.

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## Publications

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### Under Peer Review:

1. [TCSS] **M. Siddula**, Y. Li, X. Cheng, Z. Tian, and Z. Cai. (2019) "Protecting Privacy of Mobile Social Network Users in Preferential Location Based Services," in IEEE Transactions on Computational Social Systems.

### Published Journals / Conferences:

1. [TCSS] **M. Siddula**, Y. Li, X. Cheng, Z. Tian, and Z. Cai. (2019) "Anonymization in Online Social Networks Based on Enhanced Equi-Cardinal Clustering," in IEEE Transactions on Computational Social Systems, vol. 6, no. 4, pp. 809-820, Aug. 2019. doi: 10.1109/TCSS.2019.2928324.
2. [Tsinghua] L. Ji, **M. Siddula**, X. Cheng, W. Cheng, Z. Tian, and Y. Li. (2019) "Approximate data aggregation in sensor equipped IoT networks." Tsinghua Science and Technology 25, no. 1, pp. 44-55.
3. [IPCCC] **M. Siddula**, Z. Cai, and D. Miao. (2018) "Privacy Preserving Online Social Networks using Enhanced Equicardinal Clustering," IEEE 37th International Performance Computing and Communications Conference, Orlando, FL, USA, 2018, pp. 1-8. doi: 10.1109/PCCC.2018.8710844.
4. [ACCESS] **M. Siddula**, L. Li, and Y. Li. (2018) "An Empirical Study on the Privacy Preservation of Online Social Networks," in IEEE ACCESS, vol. 6, pp. 19912-19922. doi: 10.1109/ACCESS.2018.2822693.

# Madhuri Siddula

5. [WASA] L. Ji, **M. Siddula**, X. Cheng, W. Cheng, Z. Tian, and Y. Li. (2018) "Sampling Based  $\delta$  - Approximate Data Aggregation in Sensor Equipped IoT Networks." In International Conference on Wireless Algorithms, Systems, and Applications, pp. 249-260. Springer, Cham.
6. [SCN] G. Li, Z. Cai, G. Yin, Z. He, and **M. Siddula**. (2018) "Differentially Private Recommendation System Based on Community Detection in Social Network Applications," Security and Communication Networks, vol. 2018, Article ID 3530123, 18 pages,. <https://doi.org/10.1155/2018/3530123>.
7. [CIB] **M. Siddula**, F. Dai, Y. Ye, and J. Fan. (2016) "Classifying construction site photos for roof detection: A machine-learning method towards automated measurement of safety performance on roof sites", Construction Innovation, Vol. 16 Issue: 3, pp.368-389.
8. [ICSDEC] **M. Siddula**, F. Dai, Y. Ye, and J. Fan. (2016) "Unsupervised Feature Learning for Objects of Interest Detection in Cluttered Construction Roof Site Images," Procedia Engineering, Volume 145, 2016, Pages 428-435, ISSN 1877-7058.
9. [ICCCBE] **M. Siddula**, F. Dai, Y. Ye, and J. Fan. (2016) "Learning in Unordered and Static Daily Construction Site Photos for Roof Detection: A Step toward Automated Safety Performance Monitoring for Work on Rooftops," 16th International Conference on Computing in Civil and Building Engineering, Osaka, Japan, pp. 1661-1668.
10. [CONNECT] B.M.K. Komanduri, **M. Siddula**, S. Vanlin, and B. R. Tamma. (2014) "A Dynamic Link aggregation Scheme for heterogeneous wireless networks," IEEE International Conference on Electronics, Computing and Communication Technologies, Bangalore, India, pp. 1-6. doi: 10.1109/CONECCT.2014.6740326.
11. [SMC] **M. Siddula**, S. Sanadhya, and A. V. Subramanyam. (2013) "Cryptanalysis of a Digital Watermarking Scheme Based on Support Vector Regression," IEEE International Conference on Systems, Man, and Cybernetics, Manchester, pp. 1554-1559. doi: 10.1109/SMC.2013.268.

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## Affiliations

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- IEEE Student Member
- ACM
- N2Women
- Precog@IIITD (2010-2012)
- CPS (Cyber Physical Systems) Group at IIT Hyderabad (2012-2013)

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## Presentations

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- "Privacy Preserving Online Social Networks using Enhanced Equicardinal Clustering" IPCC, Orlando, FL, 17 November 2018.
- "Privacy in Social Networks" CS Poster Day, GSU, Atlanta, GA, 22 June 2018 and 26 April 2019.
- "A dynamic link aggregation scheme for heterogeneous networks", IEEE CONNECT, Bangalore, India, 6 January 2014.
- "Data Security – Problems and Solutions", NIIT, Neemrana, India, 2011.